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(FILE 'HOME' ENTERED AT 08:55:58 ON 23 DEC 2005)

FILE 'HCAPLUS' ENTERED AT 08:56:53 ON 23 DEC 2005

E US20040082756?RN

E US20040082756/PN

L1 1 SEA ABB=ON PLU=ON US20040082756/PN
D ALL
SEL RN

FILE 'REGISTRY' ENTERED AT 09:00:04 ON 23 DEC 2005

L2 14 SEA ABB=ON PLU=ON (640298-31-3/BI OR 640298-32-4/BI
OR 640298-33-5/BI OR 640298-34-6/BI OR 640298-36-8/BI
OR 640298-37-9/BI OR 640298-38-0/BI OR 640298-39-1/BI
OR 640298-40-4/BI OR 640298-42-6/BI OR 640298-43-7/BI
OR 640298-45-9/BI OR 7429-90-5/BI OR 7440-50-8/BI)
D SCAN
D 1-14 CRN STR
D L2 7,9,11,13-14 RN STR
E POLYA/PCT

L3 84035 SEA ABB=ON PLU=ON POLYAMIDE/PCT
L4 3118 SEA ABB=ON PLU=ON POLYBENZOXAZOLE/PCT
L5 18351 SEA ABB=ON PLU=ON POLYCARBONATE/PCT
L6 15 SEA ABB=ON PLU=ON L3 AND L4 AND L5
D SCAN
L7 1 SEA ABB=ON PLU=ON L2 AND L6
D SCAN
L8 2137 SEA ABB=ON PLU=ON L3 AND L4
L9 9 SEA ABB=ON PLU=ON L2 AND L8
D SCAN
L10 480 SEA ABB=ON PLU=ON L3 AND L5
L11 1 SEA ABB=ON PLU=ON L2 AND L10
D SCAN
L12 9 SEA ABB=ON PLU=ON L7 OR L9 OR L11
L13 18 SEA ABB=ON PLU=ON L4 AND L5
L14 1 SEA ABB=ON PLU=ON L2 AND L13
D SCAN
L15 1 SEA ABB=ON PLU=ON L14 AND L7
L16 12 SEA ABB=ON PLU=ON L2 AND (L3 OR L4 OR L5)
L17 9 SEA ABB=ON PLU=ON L7 OR L9 OR L11 OR L12
L18 3 SEA ABB=ON PLU=ON L16 NOT L17
D SCAN
L19 0 SEA ABB=ON PLU=ON L18 AND L3
L20 3 SEA ABB=ON PLU=ON L18 AND L4
L21 0 SEA ABB=ON PLU=ON L18 AND L5
D L20 1-3 FIDE
L22 12 SEA ABB=ON PLU=ON L2 AND L4
D SCAN L2
E A/CI
L23 SCR 2043

FILE 'LREGISTRY' ENTERED AT 10:30:54 ON 23 DEC 2005

L24 STR
L25 STR

FILE 'REGISTRY' ENTERED AT 10:39:27 ON 23 DEC 2005

L26 50 SEA SSS SAM L24 AND L25 AND L23
L27 1 SEA ABB=ON PLU=ON L26 AND L4
D SCAN
L28 50 SEA SSS SAM L24 AND L23
D SCAN

L29 1 SEA ABB=ON PLU=ON L4 AND L28
D SCAN
D QUE STAT
D QUE STAT L25
L30 50 SEA SSS SAM L25 AND L23
D SCAN
L31 1 SEA ABB=ON PLU=ON L30 AND L4
D SCAN

FILE 'LREGISTRY' ENTERED AT 10:56:02 ON 23 DEC 2005
L32 STR L24

FILE 'REGISTRY' ENTERED AT 10:57:45 ON 23 DEC 2005
L33 50 SEA SSS SAM L32 AND L23
D SCAN
L34 0 SEA ABB=ON PLU=ON L33 AND L4
D QUE STAT L26
D QUE STAT L28
D QUE STAT L30

FILE 'LREGISTRY' ENTERED AT 11:05:35 ON 23 DEC 2005
L35 STR L25

FILE 'REGISTRY' ENTERED AT 11:07:04 ON 23 DEC 2005
L36 50 SEA SSS SAM L35 AND L23
D SCAN
L37 0 SEA ABB=ON PLU=ON L36 AND L4
D SAV
D L18 RSD
D L18 2 RSD
D L18 3 RSD
L38 4045 SEA ABB=ON PLU=ON 2 333.471.13/RID
L39 755 SEA ABB=ON PLU=ON L38 AND L4
L40 3 SEA ABB=ON PLU=ON L2 AND L39
L41 628 SEA ABB=ON PLU=ON L39 AND (46.150.18/RID OR 591.49.57
/RID)
L42 35 SEA ABB=ON PLU=ON L39 AND 591.49.57/RID
L43 1 SEA ABB=ON PLU=ON L40 AND L42

FILE 'LREGISTRY' ENTERED AT 12:30:27 ON 23 DEC 2005
L44 STR L24
L45 STR L25

FILE 'REGISTRY' ENTERED AT 12:39:16 ON 23 DEC 2005
L46 50 SEA SSS SAM L44 AND L45 AND L23
L47 6 SEA ABB=ON PLU=ON L46 AND L4
D SCAN
L48 11212 SEA SSS FUL L44 AND L45 AND L23
SAV L48 HIG453/A
L49 1319 SEA ABB=ON PLU=ON L48 AND L4
L50 1310 SEA ABB=ON PLU=ON L49 AND L3
L51 15 SEA ABB=ON PLU=ON L50 AND L5
D SCAN
L52 9 SEA ABB=ON PLU=ON L2 AND L50
L53 1 SEA ABB=ON PLU=ON L2 AND L51
D SCAN
L54 51 SEA ABB=ON PLU=ON L49 AND 1-100/SI

FILE 'HCAPLUS' ENTERED AT 12:54:29 ON 23 DEC 2005
L55 1 SEA ABB=ON PLU=ON L52
D SCAN
L56 493 SEA ABB=ON PLU=ON L39

L57 1 SEA ABB=ON PLU=ON L40
L58 625 SEA ABB=ON PLU=ON L49
L59 331987 SEA ABB=ON PLU=ON ELEC?(2A) (COMPONENT? OR PART OR
UNIT OR DEVICE? OR CONTRIVANCE? OR INVENTION? OR
APPARAT? OR APP## OR IMPLEMENT? OR INSTRUMENT? OR
TOOL? OR UTENSIL? OR EQUIP?)
L60 39 SEA ABB=ON PLU=ON L56 AND L59
L61 77 SEA ABB=ON PLU=ON L58 AND L59
D QUE STAT
L62 93 SEA ABB=ON PLU=ON L61 OR L60
L63 QUE ABB=ON PLU=ON PRODUC? OR PROD# OR GENERAT? OR
MANUF? OR MFR# OR CREAT? OR FORM## OR FORMING# OR
FORMAT? OR MAKE# OR MADE# OR MAKING# OR FABRICAT? OR
SYNTHESI? OR PREPAR? OR PREP#
L64 84 SEA ABB=ON PLU=ON L62 AND L63
L65 138122 SEA ABB=ON PLU=ON ELEC?(2A) INSULAT?
L66 40 SEA ABB=ON PLU=ON L65 AND L62
D SCAN TI
L67 17 SEA ABB=ON PLU=ON L56 AND L66
L68 36 SEA ABB=ON PLU=ON L58 AND L66
L69 1 SEA ABB=ON PLU=ON L1 AND L66
L70 5 SEA ABB=ON PLU=ON L51
D SCAN TI

FILE 'REGISTRY' ENTERED AT 13:09:56 ON 23 DEC 2005

L71 1 SEA ABB=ON PLU=ON 7429-90-5/RN
D SCAN
E 7440-50-8/RN
L72 1 SEA ABB=ON PLU=ON 7440-50-8/RN
D SCAN

FILE 'HCAPLUS' ENTERED AT 13:11:41 ON 23 DEC 2005

L73 367856 SEA ABB=ON PLU=ON L71
L74 56003 SEA ABB=ON PLU=ON (L71 OR ALUMINUM OR ALUMINIUM OR
AL) (2A) METAL?
L75 498076 SEA ABB=ON PLU=ON L72
L76 62230 SEA ABB=ON PLU=ON (L72 OR COPPER OR CU) (2A) METAL?
L77 903 SEA ABB=ON PLU=ON L56 OR L58 OR L70
L78 3 SEA ABB=ON PLU=ON L77 AND (L74 OR L76)
D SCAN
D QUE STAT
L79 40 SEA ABB=ON PLU=ON L77 AND L66
L80 42 SEA ABB=ON PLU=ON L79 OR L78
L81 40 SEA ABB=ON PLU=ON L80 NOT L70

FILE 'LREGISTRY' ENTERED AT 13:24:52 ON 23 DEC 2005

L82 STR
L83 STR
L84 STR L83
L85 STR L84
L86 STR L85
L87 STR
L88 STR
L89 STR L88
L90 STR L89
L91 STR
L92 STR L91
L93 STR

FILE 'REGISTRY' ENTERED AT 13:36:44 ON 23 DEC 2005

L94 50 SEA SSS SAM L82
D RSD

L95 D 1 STR
 D 2 STR
 D 2 RSD
50 SEA SSS SAM L83
 D 1 STR
 D RSD
L96 50 SEA SSS SAM L84
 D 1 STR
L97 50 SEA SSS SAM L85
 D RSD
L98 50 SEA SSS SAM L86
 D 1 STR
 D RSD
L99 13 SEA SSS SAM L87
 D 1 STR
 D 2 STR
 D 3 STR

FILE 'LREGISTRY' ENTERED AT 13:43:57 ON 23 DEC 2005

L100 STR L87

FILE 'REGISTRY' ENTERED AT 13:44:16 ON 23 DEC 2005

L101 50 SEA SSS SAM L100
 D 1 STR
 D RSD
L102 50 SEA SSS SAM L88
 D 1 STR
 D RSD
L103 50 SEA SSS SAM L88
 D 1 STR
 D RSD
L104 50 SEA SSS SAM L89
 D 1 STR
 D RSD
L105 50 SEA SSS SAM L90
 D 1 STR
 D RSD
 D 2 STR
 D 3 STR
 D 4 STR
 D RSD
 D 4 RSD
 D QUE STAT
L106 50 SEA SSS SAM L91
 D 1 STR
 D RSD
 D 2 STR
 D 2 RSD
L107 50 SEA SSS SAM L93
 D STR
 D RSD

FILE 'LREGISTRY' ENTERED AT 13:53:05 ON 23 DEC 2005

L108 STR

FILE 'REGISTRY' ENTERED AT 13:54:32 ON 23 DEC 2005

L109 23 SEA SSS SAM L108
 D 1 STR
 D RSD
L110 2070 SEA ABB=ON PLU=ON L49 OR L39
 E ADAMANTANE/CN
L111 1 SEA ABB=ON PLU=ON ADAMANTANE/CN

D SCAN
 D RSD
 L112 1974 SEA ABB=ON PLU=ON L110 AND (638.8/RID OR 2508.17/RID
 OR 1839/RID OR 1392.3/RID OR 46.150/RID OR 46.156/RID
 OR 46.383/RID OR 333.200/RID OR 103.10/RID OR 16.145/RID
 D OR 16.138/RID OR 553.5/RID)

FILE 'HCAPLUS' ENTERED AT 14:02:19 ON 23 DEC 2005

L113 878 SEA ABB=ON PLU=ON L112
 L114 93 SEA ABB=ON PLU=ON L113 AND L59
 L115 42 SEA ABB=ON PLU=ON L113 AND L80
 L116 40 SEA ABB=ON PLU=ON L115 NOT L70
 L117 29 S L54
 L118 67 S L117 OR L116
 L119 27 S L118 NOT L116
 L120 2 S L116 AND L117
 L121 40 S L120 OR L116

=> => d que stat 170

L3 84035 SEA FILE=REGISTRY ABB=ON PLU=ON POLYAMIDE/PCT
 L4 3118 SEA FILE=REGISTRY ABB=ON PLU=ON POLYBENZOXAZOLE/PCT
 L5 18351 SEA FILE=REGISTRY ABB=ON PLU=ON POLYCARBONATE/PCT
 L23 SCR 2043
 L44 STR

~~C=O~~ ~~C=O~~ Cy 5
 1 2 3 4

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L45 STR

C—NH2 C—NH2 C—O C—O
 1 2 3 4 5 6 7 8

NODE ATTRIBUTES:

NSPEC IS R AT 1
 NSPEC IS R AT 3
 NSPEC IS R AT 5
 NSPEC IS R AT 7
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE

L48 11212 SEA FILE=REGISTRY SSS FUL L44 AND L45 AND L23
 L49 1319 SEA FILE=REGISTRY ABB=ON PLU=ON L48 AND L4
 L50 1310 SEA FILE=REGISTRY ABB=ON PLU=ON L49 AND L3
 L51 15 SEA FILE=REGISTRY ABB=ON PLU=ON L50 AND L5

L70 5 SEA FILE=HCAPLUS ABB=ON PLU=ON L51

=> d 170 1-5 ibib abs hitstr hitind

L70 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:1049432 HCAPLUS

DOCUMENT NUMBER: 143:358262

TITLE: Porous resin film, its fabrication, and semiconductor device

INVENTOR(S): Hirata, Akihiro; Funaoka, Sohei; Murayama, Kazumoto; Tada, Masahiro; Yamamoto, Yumiko

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005268532	A2	20050929	JP 2004-78780	2004 0318
PRIORITY APPLN. INFO.: JP 2004-78780				2004 0318

AB A method for efficiently fabricating a porous resin film involves irradiating a resin film of a thermosetting resin including a decomposable component with an activation energy while simultaneously carrying out the decomposition as well as hardening of the thermosetting resin. Specifically, the decomposable component may comprise a thermally decomposable oligomer such as a polyoxyalkylene, and the thermosetting resin may comprise a benzoxazole resin. A semiconductor device having an interlayer insulator film or protective film from the above porous film is also described.

IT 799810-46-1

RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(porous thermosetting resin film, its fabrication by activation energy irradiation, and semiconductor device)

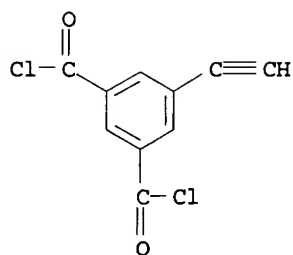
RN 799810-46-1 HCAPLUS

CN Carbonic acid, polymer with 5-ethynyl-1,3-benzenedicarbonyl dichloride, 1,6-hexanediol and 4,4'-(1-methylethylidene)bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

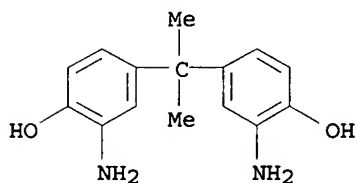
CRN 393543-05-0

CMF C10 H4 C12 O2



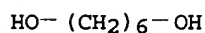
CM 2

CRN 1220-78-6
CMF C15 H18 N2 O2



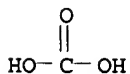
CM 3

CRN 629-11-8
CMF C6 H14 O2



CM 4

CRN 463-79-6
CMF C H2 O3



IC ICM H01L021-312
ICS H01L021-768

CC 76-3 (Electric Phenomena)

IT 675836-29-0, 2,2-Bis(3-amino-4-hydroxyphenyl)propane-5-ethynylisophthalic acid dichloride-Polypropylene glycol bis(2-aminopropyl ether) copolymer 799810-46-1

RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(porous thermosetting resin film, its fabrication by activation energy irradiation, and semiconductor device)

L70 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:1019211 HCAPLUS

DOCUMENT NUMBER: 142:31339

TITLE: Porous resin film, manufacture thereof using rapid heating method, and semiconductor device

INVENTOR(S): Hirata, Akihiro; Funaoka, Sohei; Murayama, Kazumoto; Yamamoto, Yumiko; Tada, Masahiro

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokyo Koho, 25 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004335995	A2	20041125	JP 2003-382439	2003 1112

PRIORITY APPLN. INFO.: JP 2003-113399 A
2003
0417

AB Disclosed is the process comprising a rapid heating step in which a thermosetting resin film is decomposed and hardened simultaneously, thereby forming a porous film. A decomposable component in the resin is polyoxyalkylene oligomer. The step is carried out at a temperature rise speed of $\geq 50^{\circ}\text{min}$. The porous resin film is used as an interlayer insulating film or a semiconductor protective film of a semiconductor device.

IT 799810-46-1P

RL: EPR (Engineering process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses) (manufacture of porous resin insulating film for semiconductor device using rapid heating method)

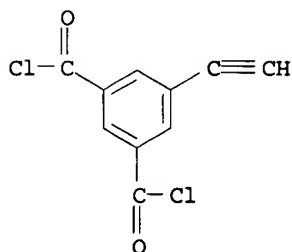
RN 799810-46-1 HCAPLUS

CN Carbonic acid, polymer with 5-ethynyl-1,3-benzenedicarbonyl dichloride, 1,6-hexanediol and 4,4'-(1-methylethylidene)bis[2-aminophenol] (9CI) (CA INDEX NAME)

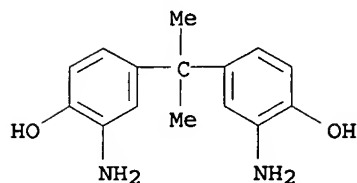
CM 1

CRN 393543-05-0

CMF C10 H4 C12 O2



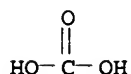
CM 2

CRN 1220-78-6
CMF C15 H18 N2 O2

CM 3

CRN 629-11-8
CMF C6 H14 O2

CM 4

CRN 463-79-6
CMF C H2 O3

IC ICM H01L021-312
ICS C08J009-26; H01L021-768; C08L101-00
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 35, 38
IT 675836-29-0P, 2,2-Bis(3-amino-4-hydroxyphenyl)propane-5-ethynylisophthalic acid chloride-polypropylene glycol bis(2-aminopropyl ether) copolymer 799810-44-9P, 4,4'-Diaminodiphenylmethane bismaleimide-polypropylene glycol bis(2-aminopropyl ether) copolymer 799810-46-1P
RL: EPR (Engineering process); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
(manufacture of porous resin insulating film for semiconductor device using rapid heating method)

L70 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:5185 HCAPLUS

DOCUMENT NUMBER: 140:78187

TITLE: Polymeric insulation for metalization with aluminum and copper

INVENTOR(S): Sezi, Recai; Walter, Andreas; Maltenberger, Anna; Lowack, Klaus; Halik, Marcus

PATENT ASSIGNEE(S): Infineon Technologies Ag, Germany

SOURCE: Eur. Pat. Appl., 41 pp.

DOCUMENT TYPE: CODEN: EPXXDW
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: 1 German
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1375563	A1	20040102	EP 2003-14160	2003 0624
EP 1375563	B1	20050330		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
DE 10228769	A1	20040205	DE 2002-10228769	2002 0627
SG 106149	A1	20040930	SG 2003-3514	2003 0625
CN 1472195	A	20040204	CN 2003-145750	2003 0627
JP 2004099873	A2	20040402	JP 2003-184081	2003 0627
US 2004082756	A1	20040429	US 2003-609453	2003 0627
PRIORITY APPLN. INFO.: DE 2002-10228769 A				
2002 0627				

Applicants case

AB The title materials, which can be easily applied to electronic components and, after cyclization, have good insulating properties and resistance to chems. and heat, are poly(2-hydroxyamides) of specified structure. Adding 95 mmol 2,6-naphthalenedicarbonyl chloride to 100 mmol 4,4'-(diphenylmethylene)bis(2-aminophenol) in N-methylpyrrolidone stirred at 10°, stirring for 1 h at 10° and 1 h at 20°, adding 10 mmol 5-norbornene-2,3-dicarbonylic anhydride in 50 mL γ -butyrolactone dropwise at 10°, and stirring at 10° for 1 h and 20° for 1 h gave a polymer (I). Spin-coating of a solution of I on a wafer, heating at 120, 200, and 425° for 1, 2, and 60 min, resp., and determination of dielectric constant and chemical stability are exemplified.

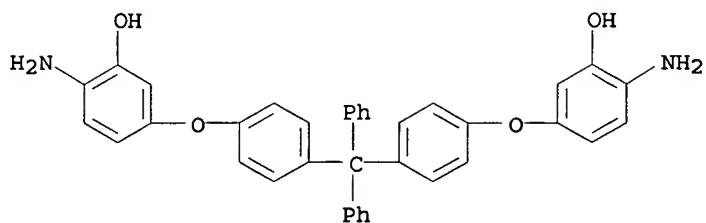
IT 640298-38-0D, cyclized
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (polymeric insulation for metalization with aluminum and copper)

RN 640298-38-0 HCAPLUS

CN Carbonic acid, polymer with 3,3'-[(diphenylmethylene)bis(4,1-phenyleneoxy)]bis[6-aminophenol], 1,6-hexanediol, 5-(phenylethynyl)-1,3-benzenedicarbonyl dichloride and 5-(2-propenyloxy)-1,3-benzenedicarbonyl dichloride, block (9CI)
 (CA INDEX NAME)

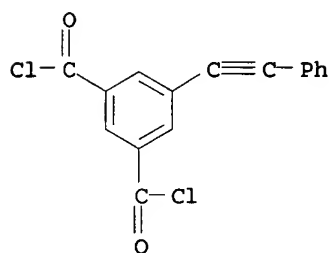
CM 1

CRN 640298-35-7
CMF C37 H30 N2 O4



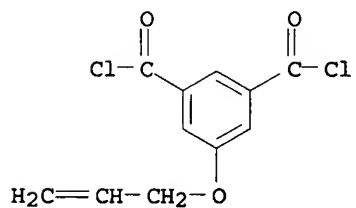
CM 2

CRN 393543-14-1
CMF C16 H8 Cl2 O2



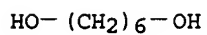
CM 3

CRN 169203-74-1
CMF C11 H8 Cl2 O3



CM 4

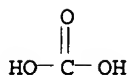
CRN 629-11-8
CMF C6 H14 O2



CM 5

CRN 463-79-6

CMF C H2 O3



IC ICM C08G073-22

ICS C08G069-26

CC 38-3 (Plastics Fabrication and Uses)

IT 640298-31-3D, end-capped with norbornenedicarboxylic anhydride, cyclized 640298-32-4D, end-capped with norbornenedicarboxylic anhydride, cyclized 640298-33-5D, end-capped with norbornenedicarboxylic anhydride, cyclized 640298-34-6D, end-capped with norbornenedicarboxylic anhydride, cyclized 640298-36-8D, end-capped with methacrylic acid, cyclized 640298-37-9D, end-capped with methacrylic acid, cyclized 640298-38-0D, cyclized 640298-39-1D, end-capped with norbornenecarboxylic acid, cyclized 640298-40-4D, end-capped with norbornenecarboxylic acid, cyclized 640298-42-6D, cyclized 640298-43-7D, end-capped with methacrylic acid, cyclized 640298-45-9D, end-capped with norbornenedicarboxylic anhydride, cyclized

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(polymeric insulation for metalization with aluminum and copper)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L70 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:41950 HCAPLUS

DOCUMENT NUMBER: 138:108356

TITLE: Photocurable polymers for use in coatings

INVENTOR(S): Halik, Marcus; Walter, Andreas; Lowack, Klaus; Sezi, Recai

PATENT ASSIGNEE(S): Infineon Technologies A.-G., Germany

SOURCE: Ger. Offen., 20 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10131536	A1	20030116	DE 2001-10131536	2001 0629
US 2003027885	A1	20030206	US 2002-187017	2002 0701
PRIORITY APPLN. INFO.:			DE 2001-10131536	A 2001

USP 6,806,314
USP 6,900,284
USP 6,759,317

0629

AB The title polymers, with good solubility in organic solvents and good film-forming properties, bear OH groups, amino groups, and aromatic substituents of specified structure. A polymer was prepared from 40 mmol each 2,2-bis(3-amino-4-hydroxyphenyl)-1,1,1,3,3,3-hexafluoropropane and 2,7-biphenylenedicarboxylic chloride and end-capped with 0.8 mmol cis-endo-5-norbornene-2,3-dicarboxylic anhydride. Photocuring of this polymer and its adhesion to Si, Ti and Ta nitride are exemplified.

IT 486429-81-6P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photocurable polymers for use in coatings)

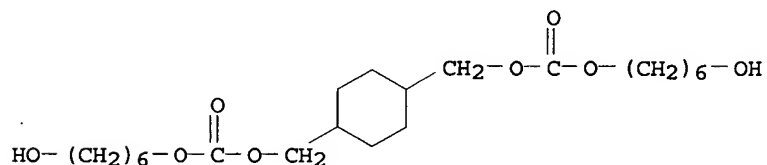
RN 486429-81-6 HCAPLUS

CN Carbonic acid, 1,4-cyclohexanediylbis(methylene) bis(6-hydroxyhexyl) ester, polymer with 2,7-biphenylenedicarbonyl dichloride and 3,3'-[9H-fluoren-9-ylidenebis(4,1-phenyleneoxy)]bis[6-aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 486429-80-5

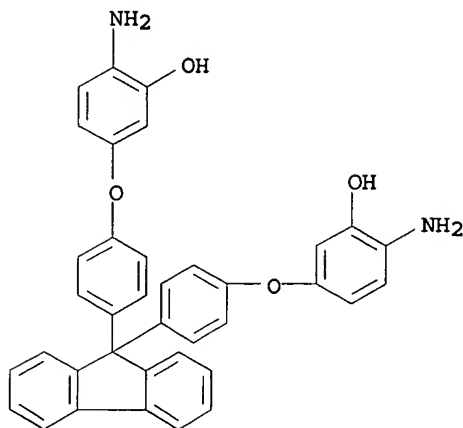
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CM 2

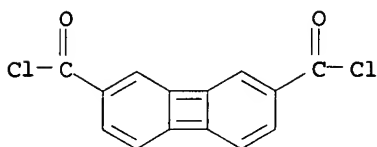
CRN 359642-31-2

CMF C37 H28 N2 O4



CM 3

CRN 69417-81-8
CMF C14 H6 C12 O2



IC ICM C08G083-00
ICS C09D005-24; C08J003-24; H01L021-312
CC 42-10 (Coatings, Inks, and Related Products)
IT 129-64-6DP, Nadic anhydride, reaction products with
biphenylene-containing polymers **486429-81-6P**
486429-82-7DP, nadic-capped 486447-48-7P
RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(photocurable polymers for use in coatings)
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L70 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:778021 HCAPLUS
DOCUMENT NUMBER: 137:295383
TITLE: Polyhydroxyamides for polyoxazole coating
materials for electronic components
INVENTOR(S): Halik, Marcus; Lowack, Klaus; Sezi, Recai;
Walter, Andreas
PATENT ASSIGNEE(S): Infineon Technologies AG, Germany
SOURCE: PCT Int. Appl., 73 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

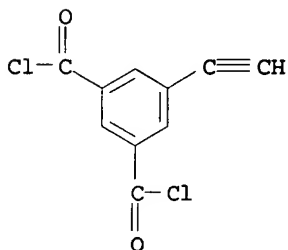
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002079297	A2	20021010	WO 2002-EP3577	2002 0328
WO 2002079297	A3	20030130		
W: CN, JP, KR, US				
DE 10115882	A1	20021205	DE 2001-10115882	2001 0330
US 2004138406	A1	20040715	US 2004-472772	2004 0210
PRIORITY APPLN. INFO.:			DE 2001-10115882	A 2001 0330
			WO 2002-EP3577	W 2002

0328

- AB The invention relates to soluble polyhydroxyamide compds. that, in the thermally cured form of their oxazoles, are suited as a elec. insulating, heat-resistant coating material, particularly for metallic and nonmetallic electronic components. A typical polyhydroxyamide was manufactured by stirring NMP containing 10 g 9,9'-bis[4-[(4-amino-3-hydroxy)phenoxy]phenyl]fluorene 1 h with γ -butyrolactone containing 4.83 g 5-ethynylisophthaloyl chloride at 10°, adding NMP containing 7.08 g UC Carb 100 [1,4-cyclohexanedimethanol polycarbonate bis(6-hydroxyhexyl ester)] dropwise, stirring an addnl. 1.5 h at 10°, stirring 12 h at 20°, cooling to 10°, adding NMP containing 5.4 g Et3N, warming to room temperature, and stirring 2 h.
- IT 470465-02-2P 470465-04-4P 470465-05-5P
470465-08-8P 470465-09-9P 470465-10-2P
470465-11-3P 470478-06-9P
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PREP (Preparation); PROC (Process)
(soluble polyhydroxyamides for heat-resistant polyoxazole coating materials for electronic components)
- RN 470465-02-2 HCAPLUS
- CN Carbonic acid, polymer with 3,3'-diamino[1,1'-biphenyl]-4,4'-diol, 5-ethynyl-1,3-benzenedicarbonyl dichloride and 1,6-hexanediol, block (9CI) (CA INDEX NAME)

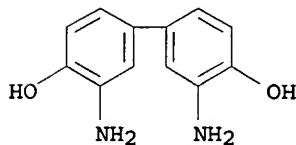
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CRN 393543-05-0
CMF C10 H4 C12 O2



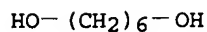
CM 2

CRN 4194-40-5
CMF C12 H12 N2 O2



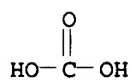
CM 3

CRN 629-11-8
CMF C6 H14 O2



CM 4

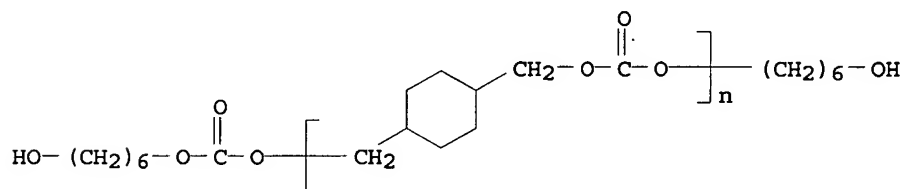
CRN 463-79-6
CMF C H2 O3



RN 470465-04-4 HCAPLUS
CN 1,2-Benzenedicarboxylic acid, polymer with 1,4-benzenedicarbonyl dichloride, 1,2-ethanediol, 3,3'-[9H-fluoren-9-ylidenebis(4,1-phenyleneoxy)]bis[6-aminophenol] and α -(6-hydroxyhexyl)- ω -[[[(6-hydroxyhexyl)oxy]carbonyl]oxy]poly(oxy carbonyloxymethylene-1,4-cyclohexanediylmethylene), block (9CI) (CA INDEX NAME)

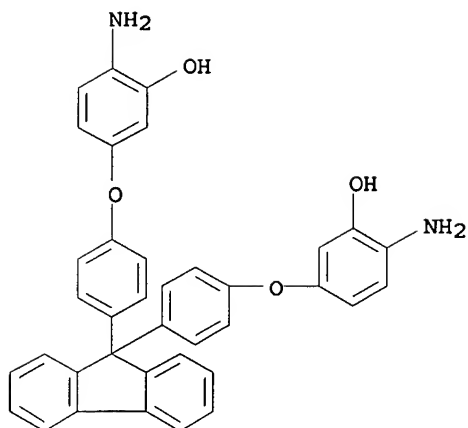
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CRN 470465-03-3
CMF (C9 H14 O3)_n C13 H26 O5
CCI PMS



CM 2

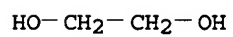
CRN 359642-31-2
CMF C37 H28 N2 O4



CM 3

CRN 107-21-1

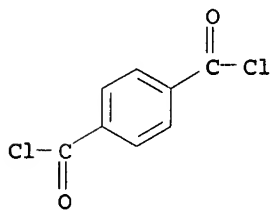
CMF C2 H6 O2



CM 4

CRN 100-20-9

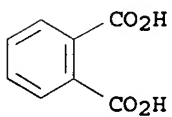
CMF C8 H4 Cl2 O2



CM 5

CRN 88-99-3

CMF C8 H6 O4

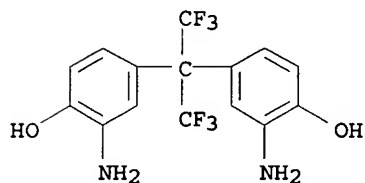


RN 470465-05-5 HCAPLUS

CN Carbonic acid, polymer with 1,6-hexanediol, 4,4'-oxybis(benzoyl chloride] and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol], block (9CI) (CA INDEX NAME)

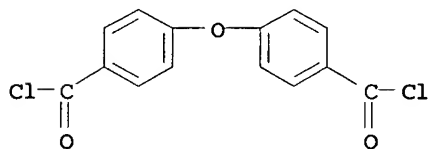
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CRN 83558-87-6
CMF C15 H12 F6 N2 O2



CM 2

CRN 7158-32-9
CMF C14 H8 Cl2 O3



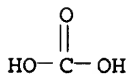
CM 3

CRN 629-11-8
CMF C6 H14 O2

HO-(CH₂)₆-OH

CM 4

CRN 463-79-6
CMF C H2 O3



RN 470465-08-8 HCAPLUS

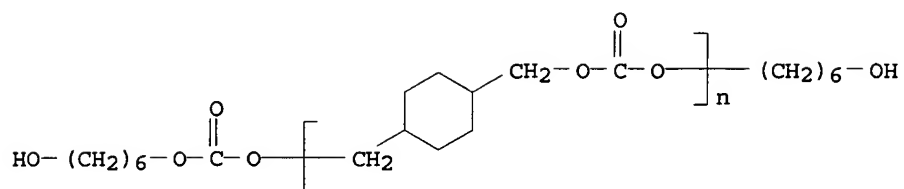
CN 1,3-Benzenedicarbonyl dichloride, polymer with 3,3'-diamino[1,1'-biphenyl]-4,4'-diol and α-(6-hydroxyhexyl)-ω-[[[(6-hydroxyhexyl)oxy]carbonyl]oxy]poly(oxycarbonyloxymethylene-1,4-cyclohexanediylmethylene), block (9CI) (CA INDEX NAME)

CM 1

CRN 470465-03-3

CMF (C9 H14 O3)n C13 H26 O5

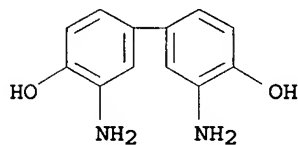
CCI PMS



CM 2

CRN 4194-40-5

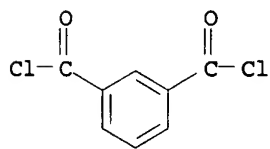
CMF C12 H12 N2 O2



CM 3

CRN 99-63-8

CMF C8 H4 Cl2 O2



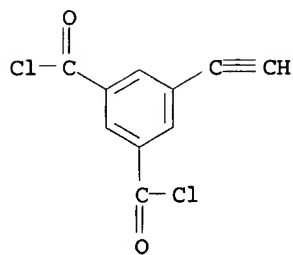
RN 470465-09-9 HCAPLUS

CN Carbonic acid, polymer with 1,4-cyclohexanedimethanol,
 5-ethynyl-1,3-benzenedicarbonyl dichloride and
 4,4'-(9H-fluoren-9-ylidene)bis[2-aminophenol], block (9CI) (CA
 INDEX NAME)

CM 1

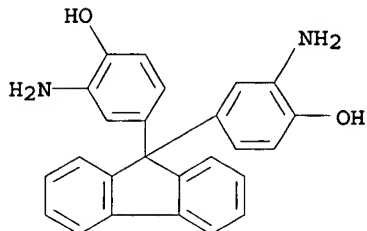
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CMF C10 H4 Cl2 O2



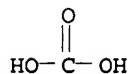
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CRN 20638-07-7
 CMF C25 H20 N2 O2



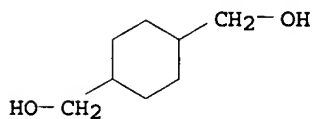
CM 3

CRN 463-79-6
 CMF C H2 O3



CM 4

CRN 105-08-8
 CMF C8 H16 O2



RN 470465-10-2 HCAPLUS
 CN 1,3-Benzenedicarbonyl dichloride, 5-ethynyl-, polymer with
 4,4'-(9H-fluoren-9-ylidene)bis[2-aminophenol] and
 α-(6-hydroxyhexyl)-ω-[[[(6-
 hydroxyhexyl)oxy]carbonyl]oxy]poly(oxycarbonyloxymethylene-1,4-

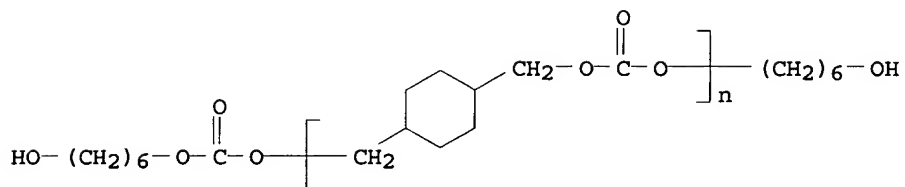
cyclohexanediylmethylene), block (9CI) (CA INDEX NAME)

CM 1

CRN 470465-03-3

CMF (C9 H14 O3)n C13 H26 O5

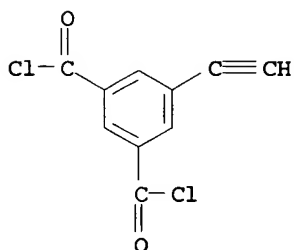
CCI PMS



CM 2

CRN 393543-05-0

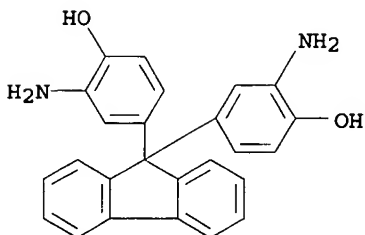
CMF C10 H4 C12 O2



CM 3

CRN 20638-07-7

CMF C25 H20 N2 O2

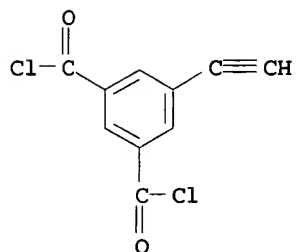


RN 470465-11-3 HCAPLUS

CN Carbonic acid, polymer with 5-ethynyl-1,3-benzenedicarbonyl dichloride, 3,3'-[9H-fluoren-9-ylidenebis(4,1-phenyleneoxy)]bis[6-aminophenol] and 1,6-hexanediol, block (9CI) (CA INDEX NAME)

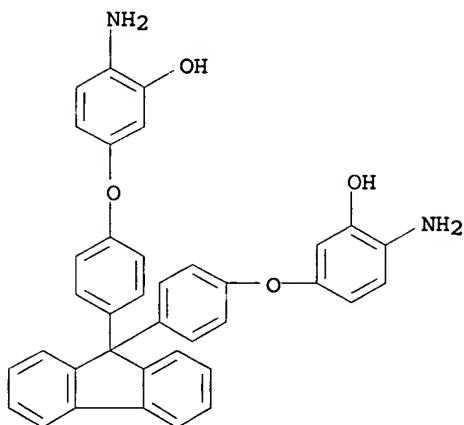
CM 1

CRN 393543-05-0
CMF C10 H4 Cl2 O2



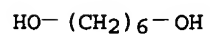
CM 2

CRN 359642-31-2
CMF C37 H28 N2 O4



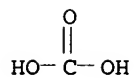
CM 3

CRN 629-11-8
CMF C6 H14 O2



CM 4

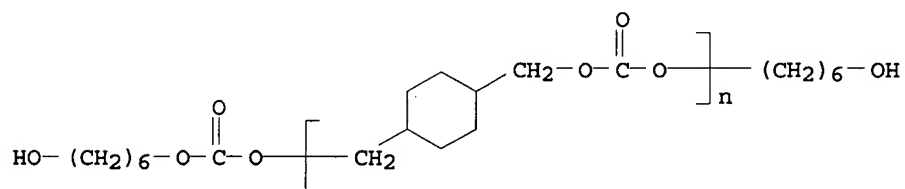
CRN 463-79-6
CMF C H2 O3



RN 470478-06-9 HCAPLUS
 CN 1,3-Benzenedicarbonyl dichloride, 5-ethynyl-, polymer with
 3,3'-[9H-fluoren-9-ylidenebis(4,1-phenyleneoxy)]bis[6-aminophenol]
 and α -(6-hydroxyhexyl)- ω -[[[(6-
 hydroxyhexyl)oxy]carbonyl]oxy]poly(oxycarbonyloxymethylene-1,4-
 cyclohexanediylmethylene), block (9CI) (CA INDEX NAME)

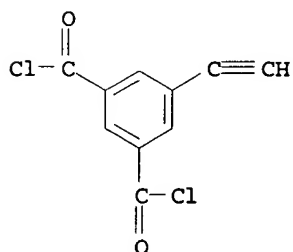
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CRN 470465-03-3
 CMF (C9 H14 O3)_n C13 H26 O5
 CCI PMS



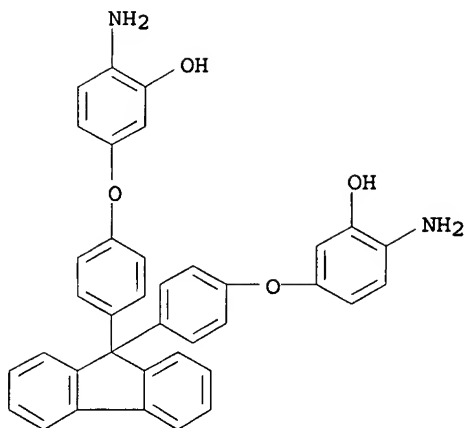
CM 2

CRN 393543-05-0
 CMF C10 H4 C12 O2



CM 3

CRN 359642-31-2
 CMF C37 H28 N2 O4



IT 470465-12-4P 470465-13-5P 470465-14-6P
470465-15-7P

RL: IMF (Industrial manufacture); PREP (Preparation)
(soluble polyhydroxyamides for heat-resistant polyoxazole coating
materials for electronic components)

RN 470465-12-4 HCAPLUS

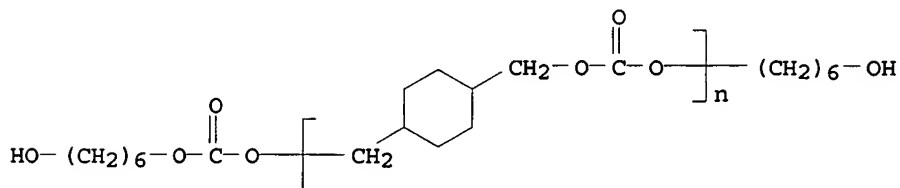
CN 1,8-Anthracenedicarbonyl dichloride, polymer with
 α -(6-hydroxyhexyl)- ω -[[[(6-hydroxyhexyl)oxy]carbonyl]oxy]poly(oxy carbonyloxymethylene-1,4-cyclohexanediylmethylene), 4,4'-oxybis[benzoyl chloride] and
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol], block (9CI) (CA INDEX NAME)

CM 1

CRN 470465-03-3

CMF (C9 H14 O3)_n C13 H26 O5

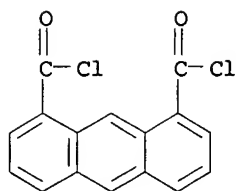
CCI PMS



CM 2

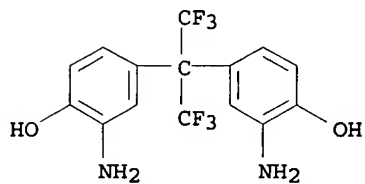
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CMF C16 H8 C12 O2



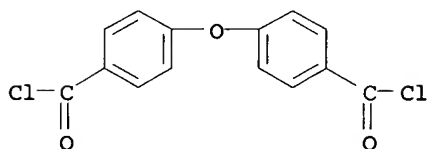
CM 3

CRN 83558-87-6
CMF C15 H12 F6 N2 O2



CM 4

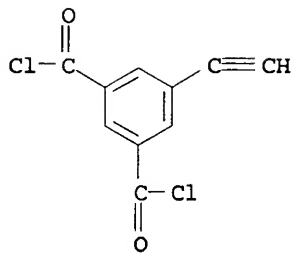
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CMF C14 H8 Cl2 O3



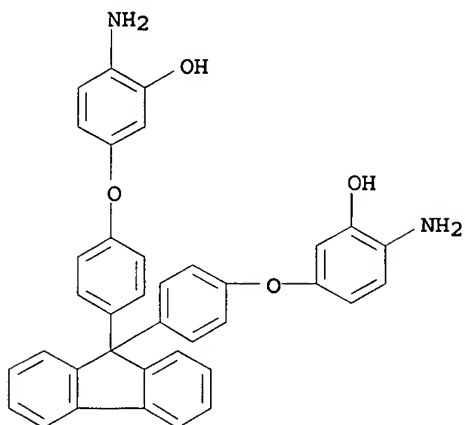
RN 470465-13-5 HCAPLUS
CN Carbonic acid, polymer with 5-ethynyl-1,3-benzenedicarbonyl dichloride, 3,3'-[9H-fluoren-9-ylidenebis(4,1-phenyleneoxy)]bis[6-aminophenol], 1,6-hexanediol and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol], block (9CI) (CA INDEX NAME)

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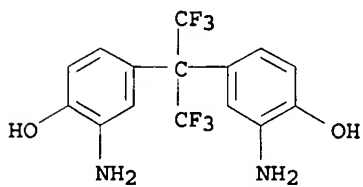
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CMF C10 H4 Cl2 O2



CM 2

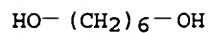
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CM 3

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CMF C15 H12 F6 N2 O2

CM 4

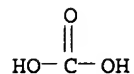
CRN 629-11-8
CMF C6 H14 O2



CM 5

CRN 463-79-6

CMF C H2 O3



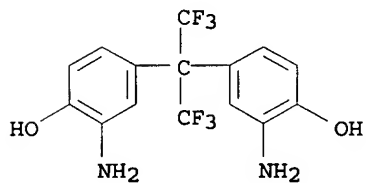
RN 470465-14-6 HCAPLUS

CN Carbonic acid, polymer with 1,4-benzenedicarbonyl dichloride,
1,6-hexanediol and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol], block (9CI) (CA
INDEX NAME)

CM 1

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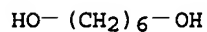
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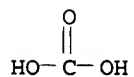
CMF C6 H14 O2



CM 3

CRN 463-79-6

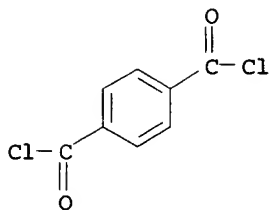
CMF C H2 O3



CM 4

CRN 100-20-9

CMF C8 H4 Cl2 O2



RN 470465-15-7 HCAPLUS

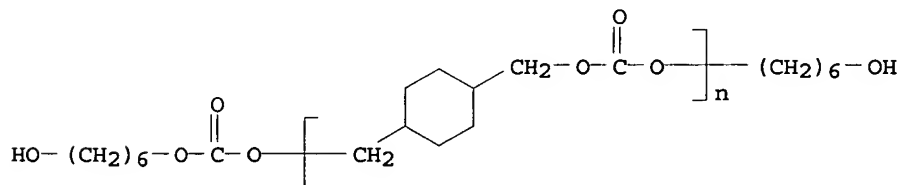
CN 1,3-Benzenedicarbonyl dichloride, 5-ethynyl-, polymer with
 1,4-benzenedicarbonyl dichloride, 3,3'-diamino[1,1'-biphenyl]-4,4'-
 diol, 3,3'-[9H-fluoren-9-ylidenebis(4,1-phenyleneoxy)]bis[6-
 aminophenol] and α -(6-hydroxyhexyl)- ω -[[[(6-
 hydroxyhexyl)oxy]carbonyl]oxy]poly(oxy carbonyloxymethylene-1,4-
 cyclohexanediylmethylene), block (9CI) (CA INDEX NAME)

CM 1

CRN 470465-03-3

CMF (C9 H14 O3)_n C13 H26 O5

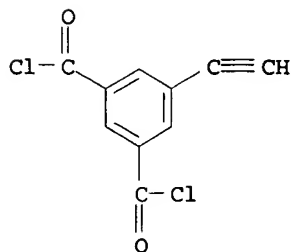
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CM 2

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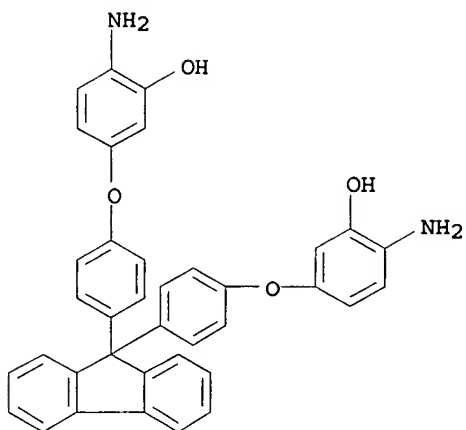
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CM 3

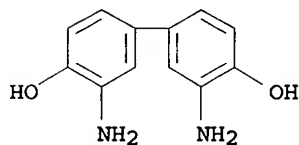
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CMF C37 H28 N2 O4



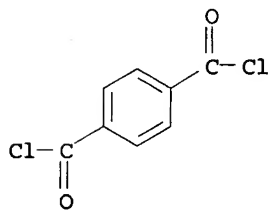
CM 4

CRN 4194-40-5
CMF C12 H12 N2 O2



CM 5

CRN 100-20-9
CMF C8 H4 Cl2 O2



IC ICM C08G069-26
ICS C08G069-32; C08G073-22; H01B003-30
CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 76
IT 470465-01-1P 470465-02-2P 470465-04-4P
470465-05-5P 470465-06-6P 470465-07-7P
470465-08-8P 470465-09-9P 470465-10-2P
470465-11-3P 470478-06-9P
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP

(Physical, engineering or chemical process); PRP (Properties);
PREP (Preparation); PROC (Process)

(soluble polyhydroxyamides for heat-resistant polyoxazole coating
materials for electronic components)

IT 470465-12-4P 470465-13-5P 470465-14-6P

470465-15-7P 470465-16-8P

RL: IMF (Industrial manufacture); PREP (Preparation)

(soluble polyhydroxyamides for heat-resistant polyoxazole coating
materials for electronic components)

=> => d que stat l121

L3 84035 SEA FILE=REGISTRY ABB=ON PLU=ON POLYAMIDE/PCT
L4 3118 SEA FILE=REGISTRY ABB=ON PLU=ON POLYBENZOXAZOLE/PCT
L5 18351 SEA FILE=REGISTRY ABB=ON PLU=ON POLYCARBONATE/PCT
L23 SCR 2043
L38 4045 SEA FILE=REGISTRY ABB=ON PLU=ON 2 333.471.13/RID
L39 755 SEA FILE=REGISTRY ABB=ON PLU=ON L38 AND L4
L44 STR

C=O C=O Cy 5
1 2 3 4

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L45 STR

C—NH2 C—NH2 C—O C—O
1 2 3 4 5 6 7 8

NODE ATTRIBUTES:

NSPEC IS R AT 1

NSPEC IS R AT 3

NSPEC IS R AT 5

NSPEC IS R AT 7

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE

L48 11212 SEA FILE=REGISTRY SSS FUL L44 AND L45 AND L23

L49 1319 SEA FILE=REGISTRY ABB=ON PLU=ON L48 AND L4

L50 1310 SEA FILE=REGISTRY ABB=ON PLU=ON L49 AND L3

L51 15 SEA FILE=REGISTRY ABB=ON PLU=ON L50 AND L5

L54 51 SEA FILE=REGISTRY ABB=ON PLU=ON L49 AND 1-100/SI

L56 493 SEA FILE=HCAPLUS ABB=ON PLU=ON L39

L58 625 SEA FILE=HCAPLUS ABB=ON PLU=ON L49

L59 331987 SEA FILE=HCAPLUS ABB=ON PLU=ON ELEC? (2A) (COMPONENT?
OR PART OR UNIT OR DEVICE? OR CONTRIVANCE? OR INVENTION
? OR APPARAT? OR APP## OR IMPLEMENT? OR INSTRUMENT? OR
TOOL? OR UTENSIL? OR EQUIP?)

L60 39 SEA FILE=HCAPLUS ABB=ON PLU=ON L56 AND L59

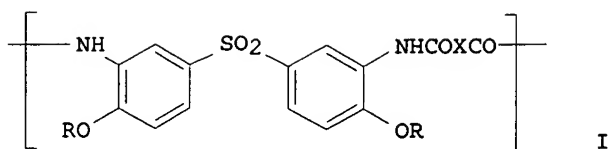
L61 77 SEA FILE=HCAPLUS ABB=ON PLU=ON L58 AND L59
 L62 93 SEA FILE=HCAPLUS ABB=ON PLU=ON L61 OR L60
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 L66 40 SEA FILE=HCAPLUS ABB=ON PLU=ON L65 AND L62
 L70 5 SEA FILE=HCAPLUS ABB=ON PLU=ON L51
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 L72 1 SEA FILE=REGISTRY ABB=ON PLU=ON 7440-50-8/RN
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 L76 62230 SEA FILE=HCAPLUS ABB=ON PLU=ON (L72 OR COPPER OR
 CU) (2A) METAL?
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 L78 3 SEA FILE=HCAPLUS ABB=ON PLU=ON L77 AND (L74 OR L76)
 L79 40 SEA FILE=HCAPLUS ABB=ON PLU=ON L77 AND L66
 L80 42 SEA FILE=HCAPLUS ABB=ON PLU=ON L79 OR L78
 L110 2070 SEA FILE=REGISTRY ABB=ON PLU=ON L49 OR L39
 L112 1974 SEA FILE=REGISTRY ABB=ON PLU=ON L110 AND (638.8/RID
 OR 2508.17/RID OR 1839/RID OR 1392.3/RID OR 46.150/RID
 OR 46.156/RID OR 46.383/RID OR 333.200/RID OR 103.10/RI
 D OR 16.145/RID OR 16.138/RID OR 553.5/RID)
 L113 878 SEA FILE=HCAPLUS ABB=ON PLU=ON L112
 L115 42 SEA FILE=HCAPLUS ABB=ON PLU=ON L113 AND L80
 L116 40 SEA FILE=HCAPLUS ABB=ON PLU=ON L115 NOT L70
 L117 29 SEA FILE=HCAPLUS ABB=ON PLU=ON L54
 L120 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L116 AND L117
 L121 40 SEA FILE=HCAPLUS ABB=ON PLU=ON L120 OR L116

=> d 1121 1-40 ibib abs hitstr hitind

L121 ANSWER 1 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:1216382 HCAPLUS
 DOCUMENT NUMBER: 143:485818
 TITLE: Positive-working photosensitive resin
 composition containing polybenzoxazole
 precursor, pattern formation and
 electronic device using it
 INVENTOR(S): Minegishi, Tomonori; Iwashita, Kenichi; Ueda,
 Mitsuru; Toyokawa, Ikuhiro; Ando, Shinji
 PATENT ASSIGNEE(S): Hitachi Chemical Co., Ltd., Japan; The
 Promotion of Science and Engineering
 SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005321466	A2	20051117	JP 2004-137583	2004 0506
PRIORITY APPLN. INFO.:			JP 2004-137583	2004 0506

GI



AB The composition contains polybenzoxazole precursor with a structural unit I (X = bivalent organic group; R = H, monovalent organic group) and a compound generating an acid by radiation exposure. The method comprises steps for (1) coating a support with the composition and drying it for forming a layer, (2) developing an exposed layer with an alkaline aqueous solution for forming a pattern, and (3) ring-closing the precursor in the pattern for changing into a polybenzoxazole. The device has a pattern layer manufactured by the method, used for an intermediate insulating layer and/or a surface protective layer. The composition shows improved light transmittance (Hg i-ray), sensitivity, developability, and sharpness.

IT 51202-69-8P 869348-02-7P

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(pos.-working photosensitive resin composition containing polybenzoxazole precursor and acid generator for manufacture of elec. device)

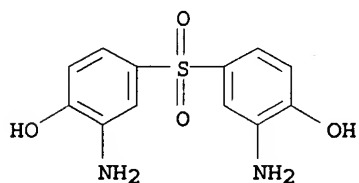
RN 51202-69-8 HCAPLUS

CN Benzoyl chloride, 4,4'-oxybis-, polymer with 4,4'-sulfonylbis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 7545-50-8

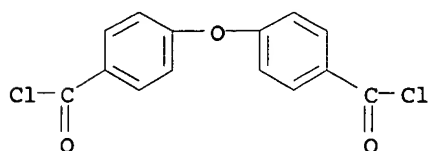
CMF C12 H12 N2 O4 S



CM 2

CRN 7158-32-9

CMF C14 H8 Cl2 O3

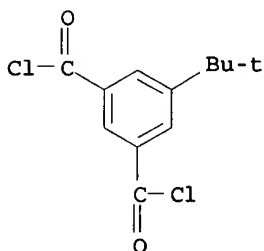


RN 869348-02-7 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, 5-(1,1-dimethylethyl)-, polymer
with 4,4'-sulfonylbis[2-aminophenol] (9CI) (CA INDEX NAME)

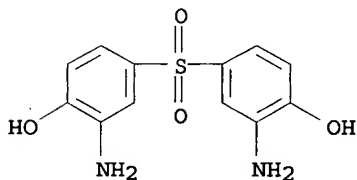
CM 1

CRN 13239-25-3
CMF C12 H12 Cl2 O2



CM 2

CRN 7545-50-8
CMF C12 H12 N2 O4 S



IC ICM G03F007-039
ICS C08G073-22; G03F007-037; G03F007-40; H01L021-027
CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 38, 76
ST pos photosensitive resin polybenzoxazole polysulfone acid
generator; **electronic device insulator**
photosensitive resin
IT Polysulfones, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)
(polyamide-polyether-; pos.-working photosensitive resin composition
containing polybenzoxazole precursor and acid generator for manufacture
of **elec. device**)
IT Polyethers, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)
(polyamide-polysulfone-; pos.-working photosensitive resin
composition containing polybenzoxazole precursor and acid generator for
manufacture of **elec. device**)
IT Polysulfones, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)
(polybenzoxazole-; pos.-working photosensitive resin composition
containing polybenzoxazole precursor and acid generator for manufacture

of elec. device)
IT Polyamides, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)
(polyether-polysulfone-; pos.-working photosensitive resin
composition containing polybenzoxazole precursor and acid generator for
manufacture of elec. device)
IT Polybenzoxazoles
RL: DEV (Device component use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)
(polysulfone-; pos.-working photosensitive resin composition containing
polybenzoxazole precursor and acid generator for manufacture of
elec. device)
IT Dielectric films
Electric apparatus
Photoimaging materials
(pos.-working photosensitive resin composition containing
polybenzoxazole precursor and acid generator for manufacture of
elec. device)
IT 152431-50-0 152431-52-2
RL: CAT (Catalyst use); USES (Uses)
(acid generator; pos.-working photosensitive resin composition
containing polybenzoxazole precursor and acid generator for manufacture
of elec. device)
IT 51202-69-8P 56793-42-1P 869348-02-7P
869348-03-8P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)
(pos.-working photosensitive resin composition containing
polybenzoxazole precursor and acid generator for manufacture of
elec. device)

L121 ANSWER 2 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:1003227 HCAPLUS

DOCUMENT NUMBER: 143:287553

TITLE: Polybenzoxazoles, their precursors, their
resin films having small and uniform pores,
and semiconductor devices having their films
INVENTOR(S): Ono, Koji; Matsutani, Mihoko; Enoki, Naoshi
PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2005247997	A2	20050915	JP 2004-59873	2004 0303
PRIORITY APPLN. INFO.:			JP 2004-59873	2004 0303

AB The precursors have active ester or carboxy groups on the side
and/or the main chains. The polybenzoxazoles are useful for
interlayer insulators and etching protective layers for
semiconductor devices. Thus, polymerizing 2,2-bis(3-amino-4-
hydroxyphenyl)hexafluoropropane, 3,5-bis(3-hydroxy-4-

aminophenoxy)benzoic acid 3-pyridyl ester, 5-phenylethynylisophthaloyl dichloride, 5-ethynylisophthaloyl dichloride, and polypropylene glycol bis(2-aminopropyl) ether, applying a varnish of the resulting polybenzoxazole precursor on a SiC semiconductor substrate, and heating at 250° for 1 h then at 420° for 1 h gave a dielec. layer showing Tg ≥450°, thermal decomposition temperature 570°, dielec. constant 1.82, and pore size ≤2 nm.

IT 864453-33-8P, 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane-3,5-bis(3-hydroxy-4-aminophenoxy)benzoic acid 3-pyridyl ester-5-ethynylisophthaloyl dichloride-5-phenylethynylisophthaloyl dichloride-polypropylene glycol bis(2-aminopropyl) ether block copolymer
864453-34-9P 864453-35-0P 864453-36-1P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polybenzoxazole porous films with small and uniform pore size for semiconductor device dielec. layers)

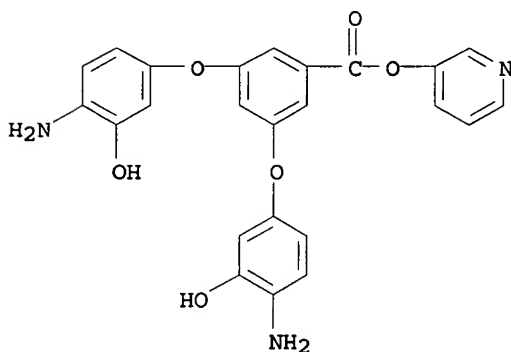
RN 864453-33-8 HCAPLUS

CN Benzoic acid, 3,5-bis(4-amino-3-hydroxyphenoxy)-, 3-pyridinyl ester, polymer with α-(2-aminopropyl)-ω-(2-aminopropoxy)poly[oxy(methyl-1,2-ethanediyl)], 5-ethynyl-1,3-benzenedicarbonyl dichloride, 5-(phenylethynyl)-1,3-benzenedicarbonyl dichloride and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol], block (9CI) (CA INDEX NAME)

CM 1

CRN 823814-64-8

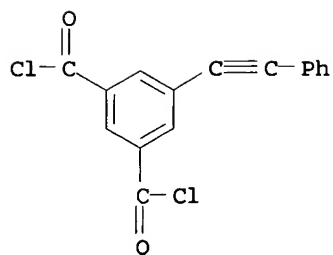
CMF C24 H19 N3 O6



CM 2

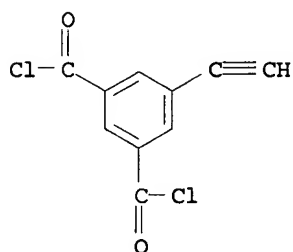
CRN 393543-14-1

CMF C16 H8 Cl2 O2



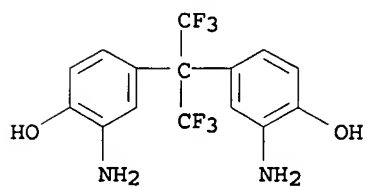
CM 3

CRN 393543-05-0
 CMF C10 H4 Cl2 O2



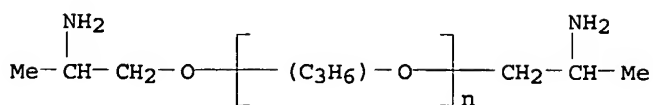
CM 4

CRN 83558-87-6
 CMF C15 H12 F6 N2 O2



CM 5

CRN 26403-64-5
 CMF (C3 H6 O)_n C6 H16 N2 O
 CCI IDS, PMS

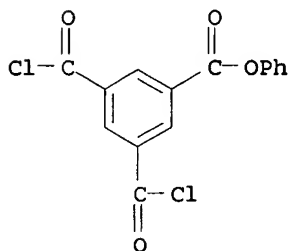


RN 864453-34-9 HCAPLUS

CN Benzoic acid, 3,5-bis(chlorocarbonyl)-, phenyl ester, polymer with
 α -(2-aminopropyl)- ω -(2-aminopropoxy)poly[oxy(methyl-
1,2-ethanediyl)], 5-ethynyl-1,3-benzenedicarbonyl dichloride,
5-(phenylethynyl)-1,3-benzenedicarbonyl dichloride and
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-
aminophenol], block (9CI) (CA INDEX NAME)

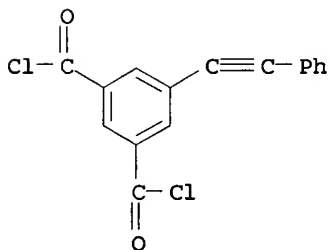
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CRN 847449-90-5
CMF C15 H8 Cl2 O4



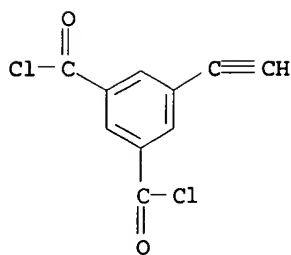
CM 2

CRN 393543-14-1
CMF C16 H8 Cl2 O2



CM 3

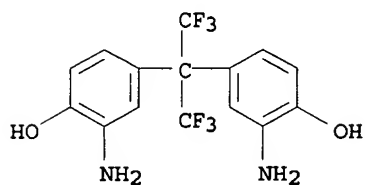
CRN 393543-05-0
CMF C10 H4 Cl2 O2



CM 4

CRN 83558-87-6

CMF C15 H12 F6 N2 O2

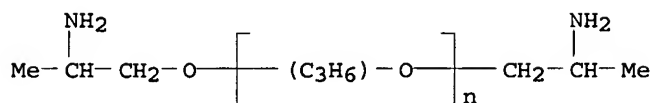


CM 5

CRN 26403-64-5

CMF (C3 H6 O)_n C6 H16 N2 O

CCI IDS, PMS



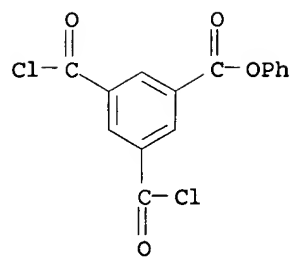
RN 864453-35-0 HCAPLUS

CM Benzoic acid, 3,5-bis(4-amino-3-hydroxyphenoxy)-, 3-pyridinyl ester, polymer with α -(2-aminopropyl)- ω -(2-aminopropoxy)poly[oxy(methyl-1,2-ethanediyl)], 5-ethynyl-1,3-benzenedicarbonyl dichloride, phenyl 3,5-bis(chlorocarbonyl)benzoate, 5-(phenylethynyl)-1,3-benzenedicarbonyl dichloride and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol], block (9CI) (CA INDEX NAME)

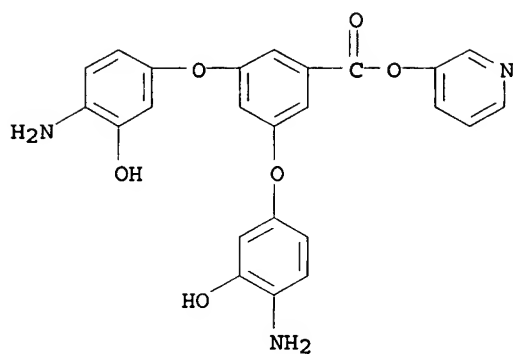
CM 1

CRN 847449-90-5

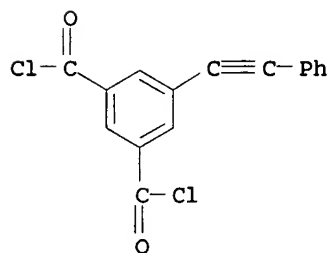
CMF C15 H8 Cl2 O4



CM 2

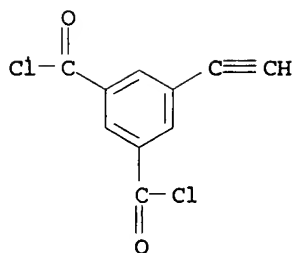
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CMF C24 H19 N3 O6

CM 3

CRN 393543-14-1
CMF C16 H8 Cl2 O2

CM 4

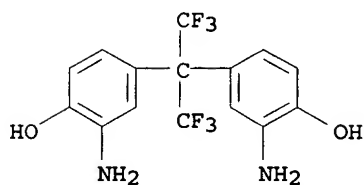
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CMF C10 H4 Cl2 O2



CM 5

CRN 83558-87-6

CMF C15 H12 F6 N2 O2

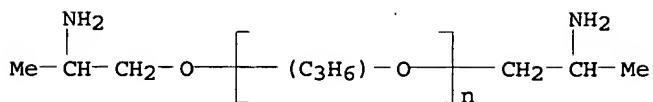


CM 6

CRN 26403-64-5

CMF (C3 H6 O)_n C6 H16 N2 O

CCI IDS, PMS



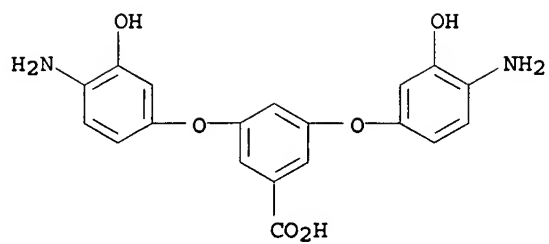
RN 864453-36-1 HCAPLUS

CN Benzoic acid, 3,5-bis(4-amino-3-hydroxyphenoxy)-, polymer with
 α -(2-aminopropyl)- ω -(2-aminopropoxy)poly[oxy(methyl-
 1,2-ethanediyl)], 5-ethynyl-1,3-benzenedicarbonyl dichloride,
 5-(phenylethynyl)-1,3-benzenedicarbonyl dichloride and
 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethyldiene]bis[2-
 aminophenol], block (9CI) (CA INDEX NAME)

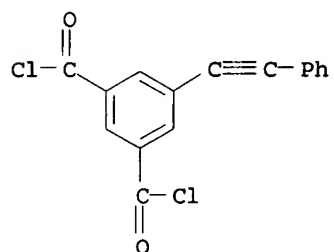
CM 1

CRN 791059-27-3

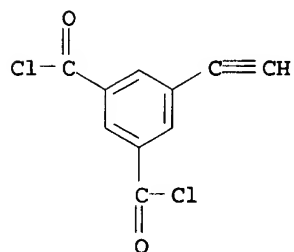
CMF C19 H16 N2 O6



CM 2

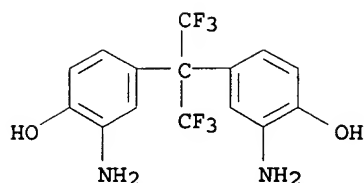
CRN 393543-14-1
CMF C16 H8 Cl2 O2

CM 3

CRN 393543-05-0
CMF C10 H4 Cl2 O2

CM 4

CRN 83558-87-6
CMF C15 H12 F6 N2 O2

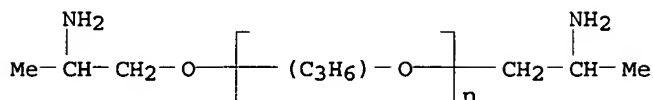


CM 5

CRN 26403-64-5

CMF (C3 H6 O)_n C6 H16 N2 O

CCI IDS, PMS



IC ICM C08G073-22

ICS H01L021-312

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 76

ST polybenzoxazole pyridyl hydroxyaminophenoxybenzoate porous dielec film; semiconductor device elec

insulator fluoropolymer polbenzoxazole porosity

IT Electric insulators

Semiconductor devices

(polybenzoxazole porous films with small and uniform pore size for semiconductor device dielec. layers)

IT 864453-33-8P, 2,2-Bis(3-amino-4-

hydroxyphenyl)hexafluoropropane-3,5-bis(3-hydroxy-4-aminophenoxy)benzoic acid 3-pyridyl ester-5-ethynylisophthaloyl dichloride-5-phenylethynylisophthaloyl dichloride-polypropylene glycol bis(2-aminopropyl) ether block copolymer

864453-34-9P 864453-35-0P 864453-36-1P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polybenzoxazole porous films with small and uniform pore size for semiconductor device dielec. layers)

L121 ANSWER 3 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:471270 HCAPLUS

DOCUMENT NUMBER: 143:34880

TITLE: Light-resistant polymer compositions and organic electroluminescent devices using them

INVENTOR(S): Arai, Nana; Miyoshi, Kazuto; Okuda, Ryoji

PATENT ASSIGNEE(S): Toray Industries, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

JP 2005139433

A2

20050602

JP 2004-281290

2004

0928

PRIORITY APPLN. INFO.:

JP 2003-354874

A

2003

1015

AB The compns. containing light stabilizers give 0.05-20- μ m cured films showing dielec. breakdown voltage ≥ 150 kV/mm after 500-h radiation of xenon arc light. The **electroluminescent devices** have **elec. insulating** layers of the compns. The compns. are also useful for surface-protective films and interlayer insulating films of semiconductor devices. The devices show high dielec. strength after unavoidable light radiation.

IT 133440-72-9DP, norbornenedicarboximide-terminated
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(light-resistant polymer compns. with high dielec. strength for **elec. insulators** of **electroluminescent devices**)

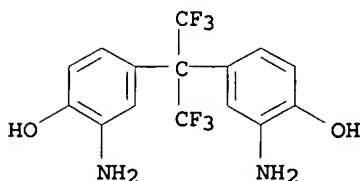
RN 133440-72-9 HCAPLUS

CN Benzoyl chloride, 4,4'-oxybis-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 83558-87-6

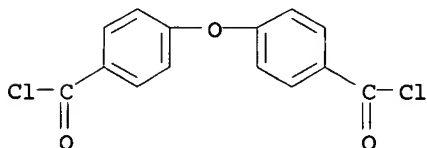
CMF C15 H12 F6 N2 O2



CM 2

CRN 7158-32-9

CMF C14 H8 Cl2 O3



IC ICM C08L101-00

ICS C08G073-10; C08G073-22; C08K005-00; C08L079-04; C08L079-08;
C09K011-06; H01L021-312; H05B033-14; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, 76

ST light resistance polymer **insulator**
electroluminescent device; dielec strength
polyimide **insulator electroluminescent**
device; polybenzoxazole **insulator light**
resistance **electroluminescent device**; novolak
insulator light resistance electroluminescent
device; acrylic **insulator light resistance**
electroluminescent device; polysiloxane
insulator light resistance electroluminescent
device

IT Polybenzoxazoles
RL: DEV (Device component use); IMF (Industrial manufacture); TEM
(Technical or engineered material use); PREP (Preparation); USES
(Uses)
(fluorine-containing; light-resistant polymer compns. with high
dielec. strength for **elec. insulators of**
electroluminescent devices)

IT **Electric insulators**
Electroluminescent devices
Light stabilizers
Light-resistant materials
(light-resistant polymer compns. with high dielec. strength for
elec. insulators of
electroluminescent devices)

IT Polysiloxanes, uses
RL: DEV (Device component use); IMF (Industrial manufacture); TEM
(Technical or engineered material use); PREP (Preparation); USES
(Uses)
(light-resistant polymer compns. with high dielec. strength for
elec. insulators of
electroluminescent devices)

IT Phenolic resins, uses
RL: DEV (Device component use); IMF (Industrial manufacture); TEM
(Technical or engineered material use); PREP (Preparation); USES
(Uses)
(novolak; light-resistant polymer compns. with high dielec.
strength for **elec. insulators of**
electroluminescent devices)

IT Photoimaging materials
(photopolymerizable; light-resistant polymer compns. with high
dielec. strength for **elec. insulators of**
electroluminescent devices)

IT Fluoropolymers, uses
RL: DEV (Device component use); IMF (Industrial manufacture); TEM
(Technical or engineered material use); PREP (Preparation); USES
(Uses)
(polybenzoxazole-; light-resistant polymer compns. with high
dielec. strength for **elec. insulators of**
electroluminescent devices)

IT Polysiloxanes, uses
RL: DEV (Device component use); IMF (Industrial manufacture); TEM
(Technical or engineered material use); PREP (Preparation); USES
(Uses)
(polyether-polyimide-; light-resistant polymer compns. with
high dielec. strength for **elec. insulators**
of electroluminescent devices)

IT Polyimides, uses
RL: DEV (Device component use); IMF (Industrial manufacture); TEM
(Technical or engineered material use); PREP (Preparation); USES

- (Uses)
(polyether-siloxane-; light-resistant polymer compns. with high dielec. strength for **elec. insulators of electroluminescent devices**)
- IT Polysiloxanes, uses
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyimide-, fluorine-containing; light-resistant polymer compns. with high dielec. strength for **elec. insulators of electroluminescent devices**)
- IT Fluoropolymers, uses
Polyethers, uses
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyimide-siloxane-; light-resistant polymer compns. with high dielec. strength for **elec. insulators of electroluminescent devices**)
- IT Polyimides, uses
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(siloxane-, fluorine-containing; light-resistant polymer compns. with high dielec. strength for **elec. insulators of electroluminescent devices**)
- IT 2440-22-4 41556-26-7, Tinuvin 292 192662-79-6, Tinuvin 400 852995-17-6, Chimassorb 81FL
RL: DEV (Device component use); MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(light stabilizers; light-resistant polymer compns. with high dielec. strength for **elec. insulators of electroluminescent devices**)
- IT 25035-81-8P, Methacrylic acid-methyl methacrylate-styrene copolymer 27029-76-1P, m-Cresol-p-cresol-formaldehyde copolymer 133440-72-9DP, norbornenedicarboximide-terminated 151402-72-1DP, imide-terminated with 3-aminophenol 162816-07-1P 236095-20-8P 809241-11-0P 852954-98-4P
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(light-resistant polymer compns. with high dielec. strength for **elec. insulators of electroluminescent devices**)
- IT 223652-10-6P 236095-20-8P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomers; light-resistant polymer compns. with high dielec. strength for **elec. insulators of electroluminescent devices**)
- IT 110726-28-8D, naphthoquinonediazidosulfonate derivs.
RL: CAT (Catalyst use); USES (Uses)
(photoacid generators; light-resistant polymer compns. with high dielec. strength for **elec. insulators of electroluminescent devices**)
- IT 122-04-3, 4-Nitrobenzoyl chloride 1204-28-0, Trimellitic anhydride chloride 83558-87-6, 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactants in monomer preparation; light-resistant polymer compns.)

with high dielec. strength for elec.
insulators of electroluminescent
devices)

L121 ANSWER 4 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:160236 HCAPLUS

DOCUMENT NUMBER: 142:241774

TITLE: Positive-working photosensitive resin
compositions, relief patterning thereof, and
electronic parts therewith

INVENTOR(S): Kawasaki, Hiroshi

PATENT ASSIGNEE(S): Hitachi Chemical Du Pont Micro System Co.,
Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005049503	A2	20050224	JP 2003-204529	2003 0731

PRIORITY APPLN. INFO.: JP 2003-204529

2003
0731

OTHER SOURCE(S): MARPAT 142:241774

AB The compns. comprise polybenzoxazole precursors [COR1COR2(OH)2NH]
[R1 = bivalent organic groups containing (bridged plural) aromatic rings; R2
= tetravalent organic groups containing (bridged plural) aromatic rings],
radiation-sensitive acid generators, acid-labile compds.,
2-R-4,5-diamino-1,3,5-triazines (R = monovalent organic group), and
solvents. Pasting the compns. on supportive substrates, drying,
exposing, baking, developing, and post-baking give relief patterns
useful for protective layers or interlayer insulation
films of electronic devices.

IT 133440-72-9P

RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)

(actual monomers, benzoxazole ring-containing; pos.-working
polybenzoxazole precursor compns. for relief insulators with
good adhesion to Cu)

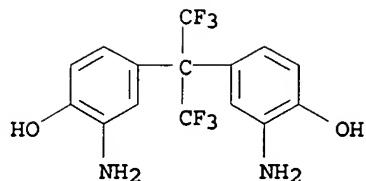
RN 133440-72-9 HCAPLUS

CN Benzoyl chloride, 4,4'-oxybis-, polymer with 4,4'-[2,2,2-trifluoro-
1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX
NAME)

CM 1

CRN 83558-87-6

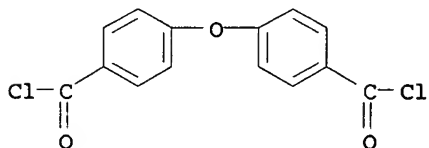
CMF C15 H12 F6 N2 O2



CM 2

CRN 7158-32-9

CMF C14 H8 Cl2 O3



IT 112480-83-8P

RL: IMF (Industrial manufacture); POF (Polymer in formulation);

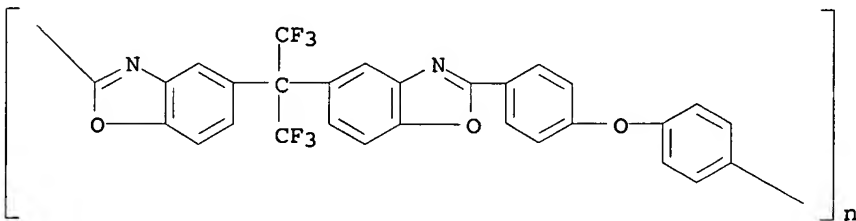
TEM (Technical or engineered material use); PREP (Preparation);

USES (Uses)

(benzoxazole ring-containing; pos.-working polybenzoxazole precursor comps. for relief insulators with good adhesion to Cu)

RN 112480-83-8 HCAPLUS

CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl-1,4-phenyleneoxy-1,4-phenylene] (9CI) (CA INDEX NAME)



IC ICM G03F007-037

ICS G03F007-004; H01L021-027

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 76

IT Electric insulators

(interlayer insulators; pos.-working polybenzoxazole precursor comps. for relief insulators with good adhesion to Cu)

IT 133440-72-9P

RL: IMF (Industrial manufacture); POF (Polymer in formulation);

TEM (Technical or engineered material use); PREP (Preparation);

USES (Uses)

(actual monomers, benzoxazole ring-containing; pos.-working

polybenzoxazole precursor compns. for relief insulators with good adhesion to Cu)

IT 112480-83-8P

RL: IMF (Industrial manufacture); POF (Polymer in formulation);

TEM (Technical or engineered material use); PREP (Preparation);

USES (Uses)

(benzoxazole ring-containing; pos.-working polybenzoxazole precursor compns. for relief insulators with good adhesion to Cu)

L121 ANSWER 5 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:847588 HCAPLUS

DOCUMENT NUMBER: 141:332962

TITLE: Crosslinked polyimides, compositions containing them and method for their manufacture

INVENTOR(S): Itatani, Hiroshi

PATENT ASSIGNEE(S): Pi R & D Co. Ltd., Japan

SOURCE: PCT Int. Appl., 68 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2004087793	A1	20041014	WO 2004-JP4305	

2004
0326

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: JP 2003-90546 A

2003
0328

JP 2003-112425 A

2003
0417

JP 2003-412832 A

2003
1211

AB The crosslinked polyamides are produced by the polycondensation of a tetraamine, a tetracarboxylic acid dianhydride and an aromatic diamine in the presence of a catalyst. The crosslinked polyamides exhibit a dielec. constant of ≤ 2.7 while compns. containing polyimides have inherent good heat resistance, elec. insulation and chemical resistance, and are useful for elec. and electronic device manufacture

Thus, polycondensing bis(3,5-diaminobenzoyl)-1,4-piperazine with biphenyltetracarboxylic dianhydride and 4,4'-diaminodiphenyl ether using oxalic acid and pyridine 2 component catalyst in N-methyl-2-pyrrolidone then coupling with 3,3',4,4'-diphenyl ether tetracarboxylic dianhydride and 1,3-bis(4-aminophenyl)benzene gave a crosslinked polyimide having the claimed properties.

IT 773889-63-7P 773889-64-8P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(crosslinked polyimides with low dielec. constant, compns. containing them and method for their manufacture and use)

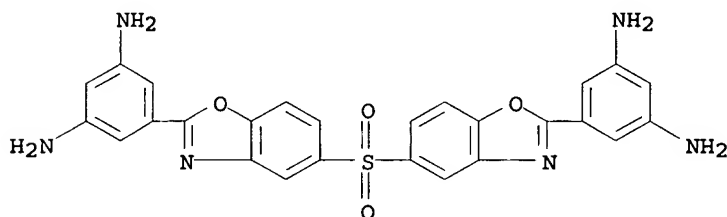
RN 773889-63-7 HCAPLUS

CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with 3-(4-aminophenoxy)benzenamine, 5,5'-oxybis[1,3-isobenzofurandione], 4,4'-[1,3-phenylenebis(oxy)]bis[benzenamine] and 5,5'-(sulfonyldi-5,2-benzoxazolediyl)bis[1,3-benzenediamine] (9CI) (CA INDEX NAME)

CM 1

CRN 518992-19-3

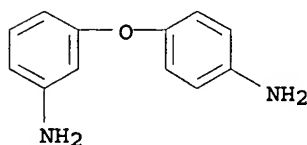
CMF C26 H20 N6 O4 S



CM 2

CRN 2657-87-6

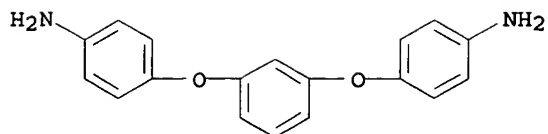
CMF C12 H12 N2 O



CM 3

CRN 2479-46-1

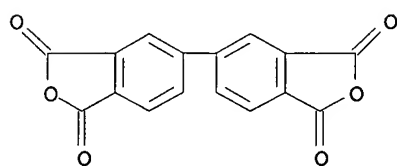
CMF C18 H16 N2 O2



CM 4

CRN 2420-87-3

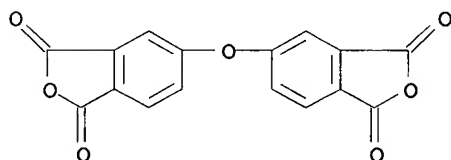
CMF C16 H6 O6



CM 5

CRN 1823-59-2

CMF C16 H6 O7

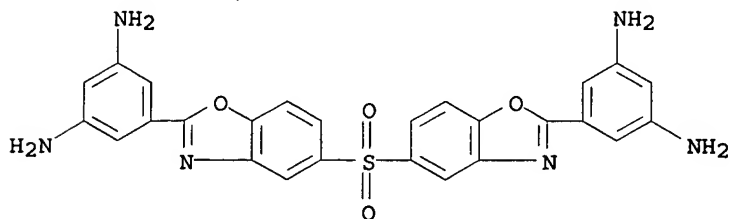


RN 773889-64-8 HCAPLUS
 CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with
 3-(4-aminophenoxy)benzenamine, α -[(3-aminopropyl)dimethylsilyl]- ω -[[3-aminopropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)],
 5,5'-oxybis[1,3-isobenzofurandione] and 5,5'-(sulfonyldi-5,2-benzoxazolediyl)bis[1,3-benzenediamine] (9CI) (CA INDEX NAME)

CM 1

CRN 518992-19-3

CMF C26 H20 N6 O4 S

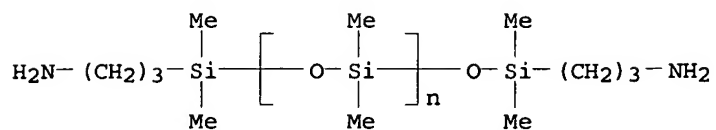


CM 2

CRN 97917-34-5

CMF (C2 H6 O Si)_n C10 H28 N2 O Si2

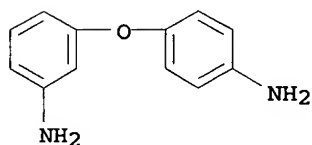
CCI PMS



CM 3

CRN 2657-87-6

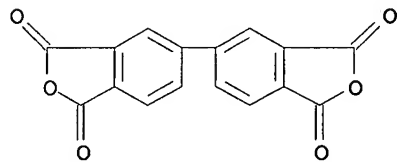
CMF C12 H12 N2 O



CM 4

CRN 2420-87-3

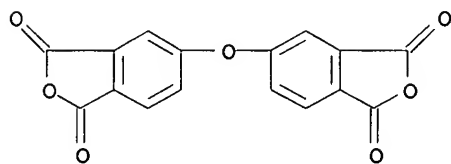
CMF C16 H6 O6



CM 5

CRN 1823-59-2

CMF C16 H6 O7



IC ICM C08G073-10

ICS G03F007-039; G03F007-037
 CC 37-3 (Plastics Manufacture and Processing)
 Section cross-reference(s): 38
 IT 773889-56-8P 773889-57-9P 773889-58-0P 773889-62-6P
 773889-63-7P 773889-64-8P 773889-65-9P
 773889-66-0P 773889-67-1P 773889-68-2P 773889-69-3P
 773889-70-6P 773889-71-7P 773889-72-8P 773889-73-9P
 773889-74-0P 773889-75-1P 773889-76-2P 773889-77-3P
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical
 or engineered material use); PREP (Preparation); USES (Uses)
 (crosslinked polyimides with low dielec. constant, compns. containing
 them and method for their manufacture and use)
 REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L121 ANSWER 6 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:779235 HCAPLUS
 DOCUMENT NUMBER: 141:287767
 TITLE: Heat-resistant photosensitive resin
 compositions, their patterning, and
 electronic devices with the
 patterns
 INVENTOR(S): Komatsu, Hiroshi; Nakano, Hajime; Fujieda,
 Nagatoshi
 PATENT ASSIGNEE(S): Hitachi Chemical Du Pont Micro System Co.,
 Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 24 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004264537	A2	20040924	JP 2003-54299	2003 0228
WO 2005101125	A1	20051027	WO 2004-JP4666	2004 0331

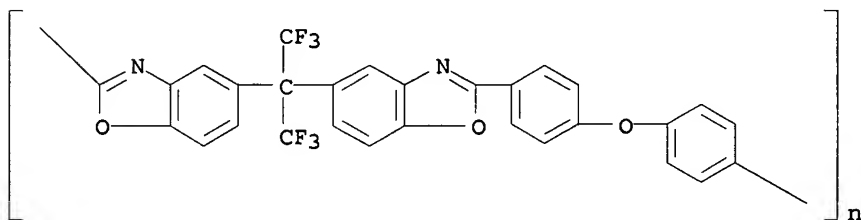
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 CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,
 ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,
 KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
 MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL,
 PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,
 TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW,
 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY,
 CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,
 NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM,
 GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: JP 2003-54299 A
 2003
 0228

AB The compns. comprise (A) (heat-resistant) polymers bearing acidic
 functional groups and/or their derivs., (B) compds. bearing
 A-reactive amino groups, (C) photosensitive compds., and (D)

solvents. The polymers may be polyimides and/or polybenzoxazoles. The compns. are pasted, patternwise exposed, alkali developed, and then post-baked to form protective or interlayer insulating patterns.

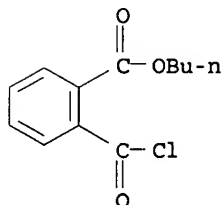
- IT 112480-83-8P 251650-67-6P, 2,2-Bis(3-amino-4-hydroxyphenyl)-1,1,1,3,3,3-hexafluoropropane-bis(3,4-dicarboxyphenyl)ether butyl ester dichloride copolymer
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (benzoxazole ring-containing; photosensitive resin compns. forming heat-resistant patterns as protective films or **insulators of electronic devices**)
- RN 112480-83-8 HCAPLUS
- CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl-1,4-phenyleneoxy-1,4-phenylene] (9CI) (CA INDEX NAME)



- RN 251650-67-6 HCAPLUS
- CN Benzoic acid, 3,3' (or 4,4')-oxybis[2-(chlorocarbonyl)-, dibutyl ester, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

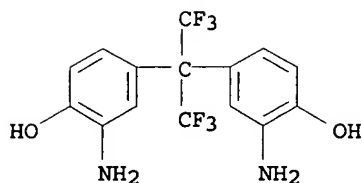
CRN 251650-61-0
 CMF C24 H24 Cl2 O7
 CCI IDS



1/2 (D1-O-D1)

CM 2

CRN 83558-87-6
 CMF C15 H12 F6 N2 O2



- IC ICM G03F007-004
ICS C08G073-06; G03F007-027; G03F007-037; H01L021-027
- CC 76-14 (Electric Phenomena)
Section cross-reference(s): 38, 74
- IT Heat-resistant materials
(dielec., films; photosensitive resin compns. forming heat-resistant patterns as protective films or **insulators of electronic devices**)
- IT **Electric insulators**
(heat-resistant, films; photosensitive resin compns. forming heat-resistant patterns as protective films or **insulators of electronic devices**)
- IT **Electric apparatus**
Photoimaging materials
(photosensitive resin compns. forming heat-resistant patterns as protective films or **insulators of electronic devices**)
- IT Polybenzoxazoles
Polyimides, uses
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photosensitive resin compns. forming heat-resistant patterns as protective films or **insulators of electronic devices**)
- IT Polyethers, uses
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polybenzoxazole-, fluorine-containing; photosensitive resin compns. forming heat-resistant patterns as protective films or **insulators of electronic devices**)
- IT Fluoropolymers, uses
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polybenzoxazole-polyether-; photosensitive resin compns. forming heat-resistant patterns as protective films or **insulators of electronic devices**)
- IT Polybenzoxazoles
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-, fluorine-containing; photosensitive resin compns. forming heat-resistant patterns as protective films or **insulators of electronic devices**)
- IT 26298-81-7P, 3,3',4,4'-Biphenyltetracarboxylic dianhydride-4,4'-oxydianiline copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(actual monomers; photosensitive resin compns. forming heat-resistant patterns as protective films or

- insulators of electronic devices)**
- IT 112492-60-1P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (benzoxazole ring-containing, actual monomers; photosensitive resin compns. forming heat-resistant patterns as protective films or **insulators of electronic devices)**
- IT 112480-83-8P 251650-67-6P, 2,2-Bis(3-amino-4-hydroxyphenyl)-1,1,1,3,3,3-hexafluoropropane-bis(3,4-dicarboxyphenyl)ether butyl ester dichloride copolymer
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (benzoxazole ring-containing; photosensitive resin compns. forming heat-resistant patterns as protective films or **insulators of electronic devices)**
- IT 75-36-5DP, Acetyl chloride, reaction products with aminobenzoic acid 98-09-9DP, Benzenesulfonyl chloride, reaction products with methylaminoterephthalate 150-13-ODP, 4-Aminobenzoic acid, reaction products with acetyl chloride 535-87-5DP, 3,5-Diaminobenzoic acid, reaction products with phenylchloroformate 1885-14-9DP, Phenylchloroformate, reaction products with diaminobenzoic acid 3282-30-2DP, Pivaloyl chloride, reaction products with amino compds. 19009-39-3DP, Diisopropylcarbamy l chloride, reaction products with hexafluoroisopropylidenebis(phenoxyaniline) 60728-41-8DP, reaction products with benzenesulfonyl chloride 69563-88-8DP, reaction products with diisopropylcarbamy l chloride 83558-87-6DP, reaction products with pivaloyl chloride
 RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (chain extenders; photosensitive resin compns. forming heat-resistant patterns as protective films or **insulators of electronic devices)**
- IT 757967-63-8P, 3,3',4,4'-Biphenyltetracarboxylic dianhydride-1,3-bis(3-aminopropyl)tetramethyldisiloxane-m-phenylenediamine copolymer ester with 2-hydroxyethyl methacrylate
 RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (photosensitive resin compns. forming heat-resistant patterns as protective films or **insulators of electronic devices)**
- IT 26615-45-2P, 3,3',4,4'-Biphenyltetracarboxylic dianhydride-4,4'-oxydianiline copolymer, sru
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (photosensitive resin compns. forming heat-resistant patterns as protective films or **insulators of electronic devices)**
- IT 17831-71-9, Tetraethylene glycol diacrylate
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
 (photosensitive resin compns. forming heat-resistant patterns as protective films or **insulators of electronic devices)**
- IT 603-44-1DP, Tris(4-hydroxyphenyl)methane, reaction products with naphthoquinonediazidesulfonyl chloride 36451-09-9DP, Naphthoquinone-1,2-diazide-4-sulfonyl chloride, reaction products with tris(hydroxyphenyl)methane
 RL: CAT (Catalyst use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES

(Uses)

(photosensitizers; photosensitive resin compns. forming
heat-resistant patterns as protective films or
insulators of electronic devices)

IT 90-94-8, Michler's ketone 1707-68-2, 2,2'-Bis(o-chlorophenyl)-
4,4',5,5'-tetraphenylbiimidazole 2382-96-9, 2-
Mercaptobenzoxazole 121172-98-3, p-Nitrobenzyl-9,10-
dimethoxyanthracene-2-sulfonate
RL: CAT (Catalyst use); TEM (Technical or engineered material
use); USES (Uses)

(photosensitizers; photosensitive resin compns. forming
heat-resistant patterns as protective films or
insulators of electronic devices)

L121 ANSWER 7 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:550097 HCAPLUS

DOCUMENT NUMBER: 141:96671

TITLE: Heat-stable photosensitive polymer
compositions, their patterning, and
electronic devices
manufactured therewith

INVENTOR(S): Yamazaki, Noriyuki

PATENT ASSIGNEE(S): Hitachi Chemical Du Pont Micro System Co.,
Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004191403	A2	20040708	JP 2002-355584	2002 1206

PRIORITY APPLN. INFO.: JP 2002-355584

2002
1206

OTHER SOURCE(S): MARPAT 141:96671

AB The compns., showing strong adhesion to substrates and high
sensitivity to i line, comprise alkali-developable polyimides or
their precursors, photoacid generators, compds. having OH on aromatic
ring-bound C, and silane compds. HS(CH₂)_nSi(OR₁)₃-pR₂p (n = 1-10
integer; R₁, R₂ = C₁-5 alkyl; p = 0-3 integer).
Electronic devices having relief patterns
obtained from the compns. as surface protective films and
interlayer insulator films are also claimed.

IT 435345-98-5P

RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)

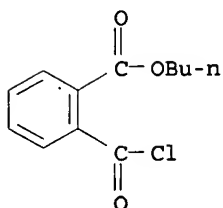
(heat-stable photosensitive polyamic acid compns. containing silane
coupling agents and showing high i-line sensitivity)

RN 435345-98-5 HCAPLUS

CN Benzenedicarboxylic acid, bis(chlorocarbonyl)-, dimethyl ester,
polymer with dibutyl 3,3'-(or 4,4')-oxybis[6-
(chlorocarbonyl)benzoate] and 4,4'-[2,2,2-trifluoro-1-
(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX
NAME)

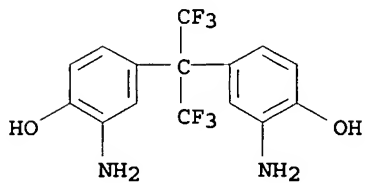
CM 1

CRN 251650-61-0
CMF C24 H24 Cl2 O7
CCI IDS

 $1/2$ (D1-O-D1)

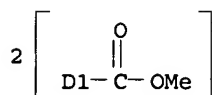
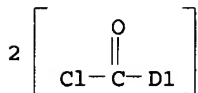
CM 2

CRN 83558-87-6
CMF C15 H12 F6 N2 O2



CM 3

CRN 54019-46-4
CMF C12 H8 Cl2 O6
CCI IDS



IC ICM G03F007-037
 ICS G03F007-004; G03F007-075; H01L021-027
 CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 38, 76
 IT **Electric insulators**
 (heat-resistant, films; heat-stable photosensitive polyamic
 acid compns. containing silane coupling agents and showing high
 i-line sensitivity)
 IT **Electric apparatus**
 Photoimaging materials
 (heat-stable photosensitive polyamic acid compns. containing silane
 coupling agents and showing high i-line sensitivity)
 IT 9043-05-4P, 4,4'-Diaminodiphenyl ether-pyromellitic dianhydride
 copolymer, sru 25735-00-6P, 4,4'-Diaminodiphenyl
 ether-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride
 copolymer, polyimide SRU 435345-98-5P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)
 (heat-stable photosensitive polyamic acid compns. containing silane
 coupling agents and showing high i-line sensitivity)

L121 ANSWER 8 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:354444 HCAPLUS

DOCUMENT NUMBER: 140:365668

TITLE: Negative-working photoresist composition and
 its application to form **electronic**
part and insulator layer in
 organic electroluminescent display

INVENTOR(S): Suwa, Atsushi; Tomikawa, Masao

PATENT ASSIGNEE(S): Toray Industries, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 31 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004133435	A2	20040430	JP 2003-319334	

PRIORITY APPLN. INFO.: JP 2002-270137 A 2003
0911
2002
0917

AB The title neg.-working photoresist composition comprises (a) a polymer having a structural repeating unit of $-\text{[CO-R}_1\text{(OR}_4\text{)]}_p\text{[COOR}_3\text{)]}_m\text{-CONH-R}_2\text{(OR}_5\text{)]}_q\text{-NH-}$ {R₁ = 2- to 8-valent C_≥2-organic group; R₂ = 2- to 6-valent C_≥2-organic group; R₃ = H, C₁-20-organic group; n = 10-100,000; m = 0-2; p, q = 0-4; R₄, R₅ = H, photocrosslinking group}, (b) a phenolic low mol. weight compound, (c) a polymerizable low mol. weight compound, and (d) a photopolymer. initiator.

IT 680227-88-7P 682750-64-7P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyimide precursor in neg.-working photoresist composition)

RN 680227-88-7 HCAPLUS

CN Benzoic acid, oxybis[(chlorocarbonyl)-, polymer with 1,3-benzenedicarbonyl dichloride, (methoxymethyl)oxirane and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 290294-07-4

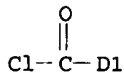
CMF C16 H8 Cl2 O7

CCI IDS



D1-CO₂H

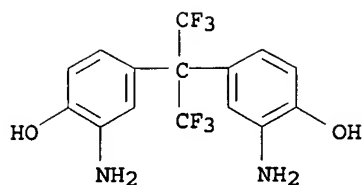
1/2 (D1-O-D1)



CM 2

CRN 83558-87-6

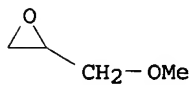
CMF C15 H12 F6 N2 O2



CM 3

CRN 930-37-0

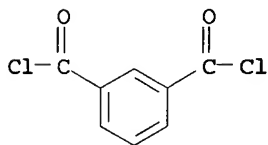
CMF C4 H8 O2



CM 4

CRN 99-63-8

CMF C8 H4 Cl2 O2



RN 682750-64-7 HCAPLUS

CN Benzoic acid, oxybis[(chlorocarbonyl)-, polymer with
1,3-benzenedicarbonyl dichloride, 2-isocyanatoethyl
2-methyl-2-propenoate, (methoxymethyl)oxirane and
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethyldiene]bis[2-
aminophenol] (9CI) (CA INDEX NAME)

CM 1

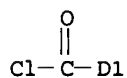
CRN 290294-07-4

CMF C16 H8 Cl2 O7

CCI IDS

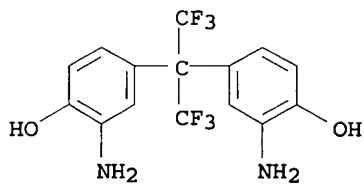
D1-CO₂H

1/2 (D1-O-D1)



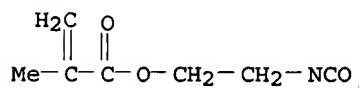
CM 2

CRN 83558-87-6
 CMF C15 H12 F6 N2 O2



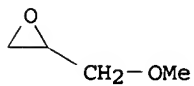
CM 3

CRN 30674-80-7
 CMF C7 H9 N O3



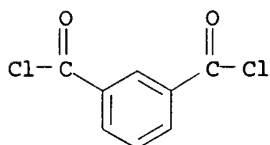
CM 4

CRN 930-37-0
 CMF C4 H8 O2



CM 5

CRN 99-63-8
CMF C8 H4 C12 O2



IC ICM G03F007-027
ICS C08G073-10; G03F007-004; H01L021-027; H05B033-12; H05B033-14;
H05B033-22

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 38, 76

ST neg working photoresist compn **electronic part**
insulator electroluminescent display

IT **Electroluminescent devices**
(displays; neg.-working photoresist composition and its application
to form **electronic part** and
insulator layer in organic electroluminescent display)

IT Luminescent screens
(electroluminescent; neg.-working photoresist composition and its
application to form **electronic part** and
insulator layer in organic electroluminescent display)

IT Dielectric films
Electronic device fabrication
Negative photoresists
(neg.-working photoresist composition and its application to form
electronic part and **insulator** layer
in organic electroluminescent display)

IT Photoimaging materials
(photopolymerizable; neg.-working photoresist composition and its
application to form **electronic part** and
insulator layer in organic electroluminescent display)

IT 236095-20-8P 264604-36-6P 317822-55-2P **680227-88-7P**
682750-60-3P 682750-62-5P **682750-64-7P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(polyimide precursor in neg.-working photoresist composition)

L121 ANSWER 9 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:305598 HCAPLUS

DOCUMENT NUMBER: 140:322525

TITLE: Polyamide dielectric compositions, their
coating varnishes, their porous
electric insulator films
with good elasticity and heat and water
resistance, and semiconductor devices having
them

INVENTOR(S): Ono, Koji

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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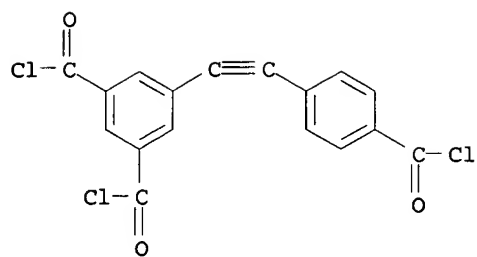
JP 2004119080	A2	20040415	JP 2002-278044	2002 0924
PRIORITY APPLN. INFO.:			JP 2002-278044	2002 0924

AB The comps. contain polymers that are manufactured from (A) polyamides
[NHX(OH)2NHCOYCO]_m[NHX(OH)2NHCOZCO]_n[NHX(OH)2NHCOC6H5-
a[CONHX(OH)2NH]a-1C.tplbond.CC6H5-b(CO)b]c [X = tetravalent group
selected from benzenetetrayl, biphenyltetrayl, etc.; Y = divalent
group selected from (alkyl)ethynylphenylene,
(alkyl)ethynylbiphenylene, (alkyl)ethynylphenylene,
(alkyl)ethynylsulfonylebiphenylene diphenyleneacetylene, etc.; Z =
phenylene, naphthylene, biphenylene, cyclohexylene, etc.; a = 2-5;
b = 1-5, c = 1-100; m > 0; n ≥ 0; m + n = 2-1000; m/(m + n) =
0.05-1] prepared from bisaminophenols and carboxylic acids containing
polybasic carboxylic acids (HOCO)aC6H5-aC.tplbond.CC6H5-b(CO2H)b
(a, b = same as above) and (B) reactive oligomers having
functional groups reactive with carboxy, amino, or OH in the
polyamides. Thus, 2,2-bis(3-amino-4-hydroxyphenyl)hexafluoropropa-
ne-5-ethynylisophthaloyl dichloride-isophthaloyl
dichloride-5-phenylethynylisophthaloyl dichloride-3,5,4'-
tolanetricarboxylic acid trichloride copolymer was reacted with
polypropylene glycol bis(2-aminopropyl) ether, coated on a Si
wafer, and heated at 300° then at 400° for decomposing
polypropylene units to give a porous polybenzoxazole film showing
T_g >450°, moisture absorption 0.2%, elastic modulus 3.0
GPa, and relative dielec. constant 1.81.

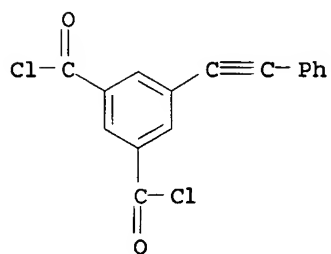
IT 677716-71-1P 677716-73-3P 677716-75-5P
677716-76-6P 677716-77-7DP, reaction products
with aminobenzoate-terminated polystyrene 677716-78-8P
677716-79-9P
RL: CPS (Chemical process); DEV (Device component use); IMF
(Industrial manufacture); PEP (Physical, engineering or chemical
process); TEM (Technical or engineered material use); PREP
(Preparation); PROC (Process); USES (Uses)
(polyacetylene-polybenzoxazole-based porous elec.
insulator films with good elasticity and heat and water
resistance for semiconductor devices)

RN	677716-71-1	HCAPLUS
CN	1,3-Benzenedicarbonyl dichloride, 5-[[4-(chlorocarbonyl)phenyl]ethynyl]-, polymer with α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)], 1,3-benzenedicarbonyl dichloride, 5-ethynyl-1,3-benzenedicarbonyl dichloride, 5-(phenylethynyl)-1,3-benzenedicarbonyl dichloride and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)	

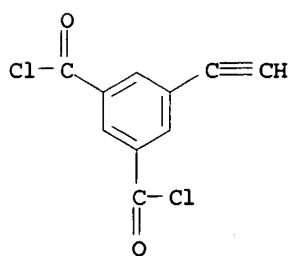
CRN 677716-70-0
CMF C17 H7 C13 O3



CM 2

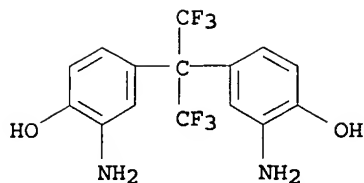
CRN 393543-14-1
CMF C16 H8 Cl2 O2

CM 3

CRN 393543-05-0
CMF C10 H4 Cl2 O2

CM 4

CRN 83558-87-6
CMF C15 H12 F6 N2 O2

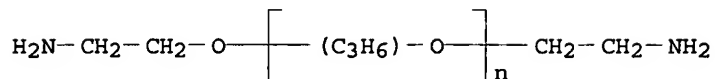


CM 5

CRN 9046-10-0

CMF (C3 H6 O)n C6 H16 N2 O

CCI IDS, PMS

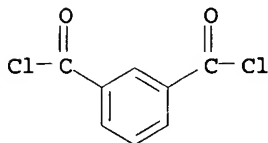


2 (D1-Me)

CM 6

CRN 99-63-8

CMF C8 H4 Cl2 O2



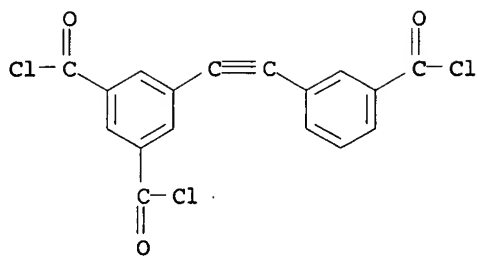
RN 677716-73-3 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, 5-[[3-(chlorocarbonyl)phenyl]ethynyl]-, polymer with α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)], 1,3-benzenedicarbonyl dichloride, 5-ethynyl-1,3-benzenedicarbonyl dichloride, 5-(phenylethynyl)-1,3-benzenedicarbonyl dichloride and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

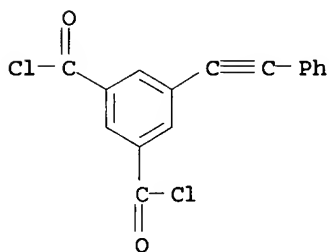
CM 1

CRN 677716-72-2

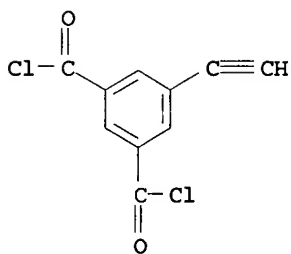
CMF C17 H7 Cl3 O3



CM 2

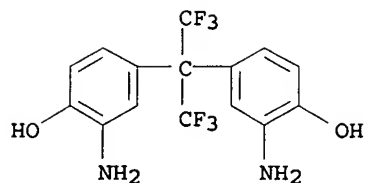
CRN 393543-14-1
CMF C16 H8 Cl2 O2

CM 3

CRN 393543-05-0
CMF C10 H4 Cl2 O2

CM 4

CRN 83558-87-6
CMF C15 H12 F6 N2 O2

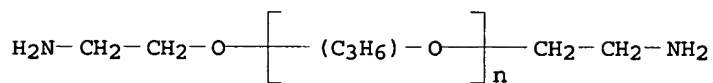


CM 5

CRN 9046-10-0

CMF (C3 H6 O)_n C6 H16 N2 O

CCI IDS, PMS

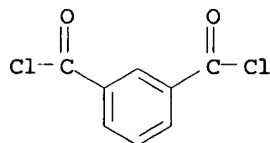


2 (D1-Me)

CM 6

CRN 99-63-8

CMF C8 H4 Cl2 O2



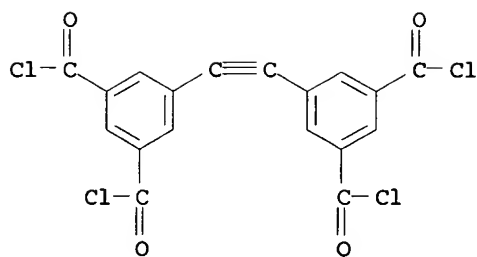
RN 677716-75-5 HCAPLUS

CN 2,7-Biphenylenedicarbonyl dichloride, polymer with
 α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)],
 3,3'-diamino[1,1'-biphenyl]-4,4'-diol and 5,5'-(1,2-ethynediyl)bis[1,3-benzenedicarbonyl dichloride] (9CI) (CA INDEX NAME)

CM 1

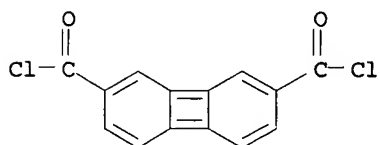
CRN 677716-74-4

CMF C18 H6 Cl4 O4



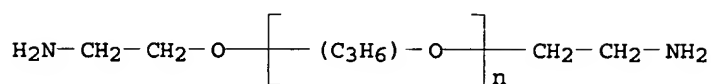
CM 2

CRN 69417-81-8
CMF C14 H6 Cl2 O2



CM 3

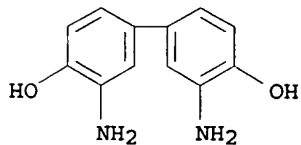
CRN 9046-10-0
CMF (C3 H6 O)_n C6 H16 N2 O
CCI IDS, PMS



2 (D1-Me)

CM 4

CRN 4194-40-5
CMF C12 H12 N2 O2

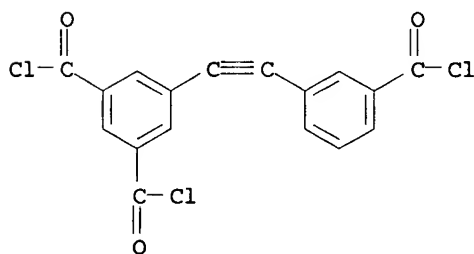


RN 677716-76-6 HCAPLUS
CN 1,3-Benzenedicarbonyl dichloride, 5-[3-

(chlorocarbonyl)phenylethynyl]-, polymer with
 α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)],
 3,3'-diamino[1,1'-biphenyl]-4,4'-diol and 4,4'-(1,2-ethynediyl)bis(benzoyl chloride) (9CI) (CA INDEX NAME)

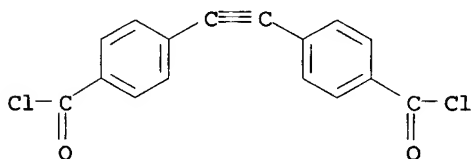
CM 1

CRN 677716-72-2
 CMF C17 H7 Cl3 O3



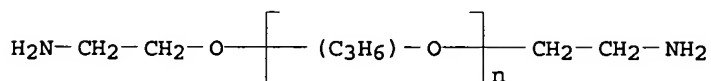
CM 2

CRN 16819-44-6
 CMF C16 H8 Cl2 O2



CM 3

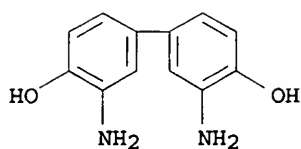
CRN 9046-10-0
 CMF (C3 H6 O)_n C6 H16 N2 O
 CCI IDS, PMS



2 (D1-Me)

CM 4

CRN 4194-40-5
 CMF C12 H12 N2 O2

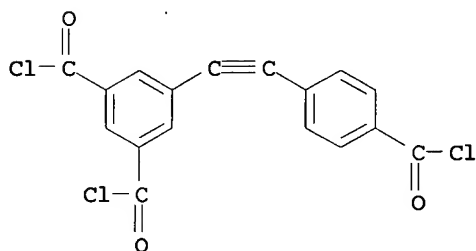


RN 677716-77-7 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, 5-[[4-(chlorocarbonyl)phenyl]ethynyl]-, polymer with 1,3-benzenedicarbonyl dichloride, 5-ethynyl-1,3-benzenedicarbonyl dichloride, 5-(phenylethynyl)-1,3-benzenedicarbonyl dichloride and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

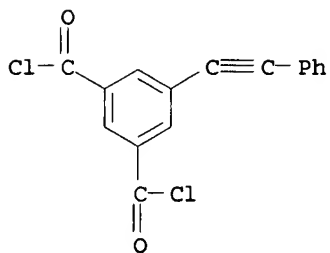
CM 1

CRN 677716-70-0
CMF C17 H7 Cl3 O3



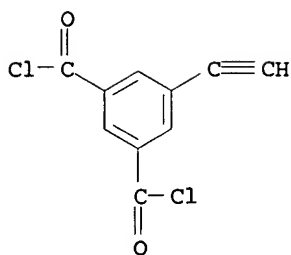
CM 2

CRN 393543-14-1
CMF C16 H8 Cl2 O2



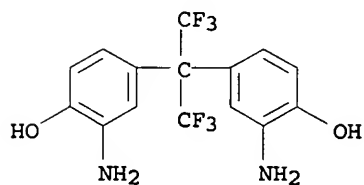
CM 3

CRN 393543-05-0
CMF C10 H4 Cl2 O2



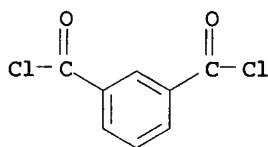
CM 4

CRN 83558-87-6
CMF C15 H12 F6 N2 O2



CM 5

CRN 99-63-8
CMF C8 H4 Cl2 O2

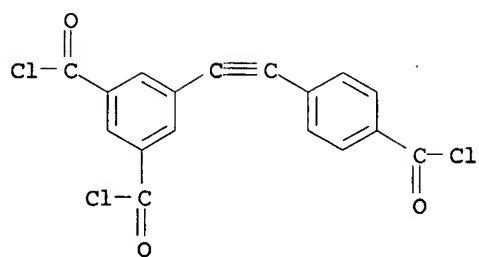


RN 677716-78-8 HCAPLUS

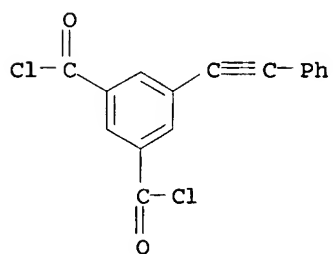
CN 1,3-Benzenedicarbonyl dichloride, 5-[[4-(chlorocarbonyl)phenyl]ethynyl]-, polymer with 1,3-benzenedicarbonyl dichloride, 5-ethynyl-1,3-benzenedicarbonyl dichloride, methyl 2-methyl-2-propenoate, 5-(phenylethynyl)-1,3-benzenedicarbonyl dichloride and 4,4'-(2,2,2-trifluoro-1-(trifluoromethyl)ethylidene)bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

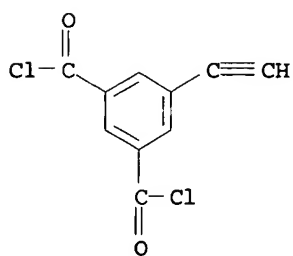
CRN 677716-70-0
CMF C17 H7 Cl3 O3



CM 2

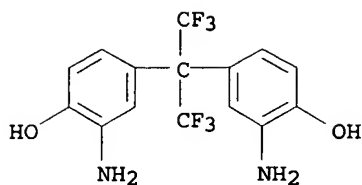
CRN 393543-14-1
CMF C16 H8 Cl2 O2

CM 3

CRN 393543-05-0
CMF C10 H4 Cl2 O2

CM 4

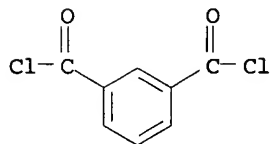
CRN 83558-87-6
CMF C15 H12 F6 N2 O2



CM 5

CRN 99-63-8

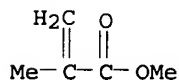
CMF C8 H4 Cl2 O2



CM 6

CRN 80-62-6

CMF C5 H8 O2



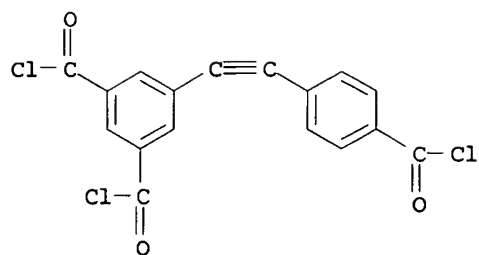
RN 677716-79-9 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, 5-[[4-(chlorocarbonyl)phenyl]ethynyl]-, polymer with 1,3-benzenedicarbonyl dichloride, 5-ethynyl-1,3-benzenedicarbonyl dichloride, (1-methylethenyl)benzene, 5-(phenylethynyl)-1,3-benzenedicarbonyl dichloride and 4,4'-(2,2,2-trifluoro-1-(trifluoromethyl)ethylidene)bis[2-aminophenol] (9CI) (CA INDEX NAME)

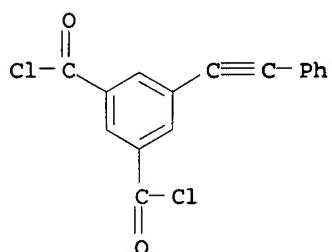
CM 1

CRN 677716-70-0

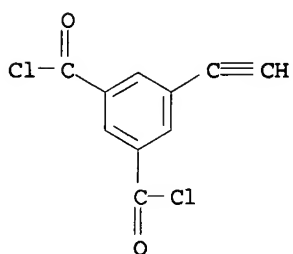
CMF C17 H7 Cl3 O3



CM 2

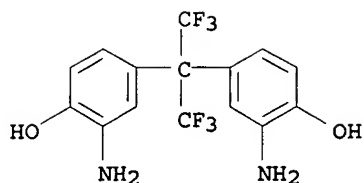
CRN 393543-14-1
CMF C16 H8 Cl2 O2

CM 3

CRN 393543-05-0
CMF C10 H4 Cl2 O2

CM 4

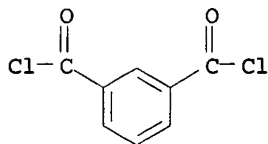
CRN 83558-87-6
CMF C15 H12 F6 N2 O2



CM 5

CRN 99-63-8

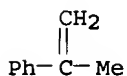
CMF C8 H4 Cl2 O2



CM 6

CRN 98-83-9

CMF C9 H10



- IC ICM H01B003-30
ICS C08G073-22; H01L021-312; H01L021-768
- CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 76
- ST hydroxy polyamide polyacetylene porous dielec film; semiconductor
device elec insulator polybenzoxazole
porosity; polyoxyalkylene polybenzoxazole polyacetylene decompn
porous dielec
- IT Porous materials
(films; polyacetylene-polybenzoxazole-based porous **elec**
. **insulator** films with good elasticity and heat and
water resistance for semiconductor devices)
- IT Polyamides, processes
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP
(Physical, engineering or chemical process); PREP (Preparation);
PROC (Process)
(polyacetylene-, fluorine-containing, OH-containing;
polyacetylene-polybenzoxazole-based porous **elec**.
insulator films with good elasticity and heat and water
resistance for semiconductor devices)
- IT Polybenzoxazoles
RL: CPS (Chemical process); DEV (Device component use); IMF
(Industrial manufacture); PEP (Physical, engineering or chemical
process); TEM (Technical or engineered material use); PREP
(Preparation); PROC (Process); USES (Uses)

- (polyacetylene-, fluorine-containing; polyacetylene-polybenzoxazole-based porous **elec. insulator** films with good elasticity and heat and water resistance for semiconductor devices)
- IT Fluoropolymers, processes
Polyoxyalkylenes, processes
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(polyacetylene-polyamide-, OH-containing; polyacetylene-polybenzoxazole-based porous **elec. insulator** films with good elasticity and heat and water resistance for semiconductor devices)
- IT Polyoxyalkylenes, processes
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(polyacetylene-polyamide-, fluorine-containing, OH-containing; polyacetylene-polybenzoxazole-based porous **elec. insulator** films with good elasticity and heat and water resistance for semiconductor devices)
- IT Fluoropolymers, processes
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(polyacetylene-polyamide-polyoxyalkylene-, OH-containing; polyacetylene-polybenzoxazole-based porous **elec. insulator** films with good elasticity and heat and water resistance for semiconductor devices)
- IT Polyoxyalkylenes, uses
RL: CPS (Chemical process); DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(polyacetylene-polybenzoxazole-, fluorine-containing; polyacetylene-polybenzoxazole-based porous **elec. insulator** films with good elasticity and heat and water resistance for semiconductor devices)
- IT Fluoropolymers, uses
Polyoxyalkylenes, uses
RL: CPS (Chemical process); DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(polyacetylene-polybenzoxazole-; polyacetylene-polybenzoxazole-based porous **elec. insulator** films with good elasticity and heat and water resistance for semiconductor devices)
- IT **Electric insulators**
Semiconductor devices
(polyacetylene-polybenzoxazole-based porous **elec. insulator** films with good elasticity and heat and water resistance for semiconductor devices)
- IT Fluoropolymers, uses
RL: CPS (Chemical process); DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(polyacetylene-polybenzoxazole-polyoxyalkylene-; polyacetylene-polybenzoxazole-based porous **elec. insulator** films with good elasticity and heat and water resistance for semiconductor devices)

- IT Polyamides, processes
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(polyacetylene-polyoxyalkylene-, OH-containing; polyacetylene-polybenzoxazole-based porous **elec. insulator** films with good elasticity and heat and water resistance for semiconductor devices)
- IT Polyamides, processes
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(polyacetylene-polyoxyalkylene-, fluorine-containing, OH-containing; polyacetylene-polybenzoxazole-based porous **elec. insulator** films with good elasticity and heat and water resistance for semiconductor devices)
- IT Polybenzoxazoles
RL: CPS (Chemical process); DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(polyacetylene-polyoxyalkylene-, fluorine-containing; polyacetylene-polybenzoxazole-based porous **elec. insulator** films with good elasticity and heat and water resistance for semiconductor devices)
- IT Polybenzoxazoles
RL: CPS (Chemical process); DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(polyacetylene-polyoxyalkylene-; polyacetylene-polybenzoxazole-based porous **elec. insulator** films with good elasticity and heat and water resistance for semiconductor devices)
- IT Polyacetylenes, processes
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(polyamide-, fluorine-containing, OH-containing; polyacetylene-polybenzoxazole-based porous **elec. insulator** films with good elasticity and heat and water resistance for semiconductor devices)
- IT Polyacetylenes, processes
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(polyamide-polyoxyalkylene-, OH-containing; polyacetylene-polybenzoxazole-based porous **elec. insulator** films with good elasticity and heat and water resistance for semiconductor devices)
- IT Polyacetylenes, processes
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)
(polyamide-polyoxyalkylene-, fluorine-containing, OH-containing; polyacetylene-polybenzoxazole-based porous **elec. insulator** films with good elasticity and heat and water resistance for semiconductor devices)
- IT Polyacetylenes, uses
RL: CPS (Chemical process); DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP

- (Preparation); PROC (Process); USES (Uses)
 (polybenzoxazole-, fluorine-containing; polyacetylene-
 polybenzoxazole-based porous **elec. insulator**
 films with good elasticity and heat and water resistance for
 semiconductor devices)
- IT Polyacetylenes, uses
 RL: CPS (Chemical process); DEV (Device component use); IMF
 (Industrial manufacture); PEP (Physical, engineering or chemical
 process); TEM (Technical or engineered material use); PREP
 (Preparation); PROC (Process); USES (Uses)
 (polybenzoxazole-polyoxyalkylene-, fluorine-containing;
 polyacetylene-polybenzoxazole-based porous **elec.**
insulator films with good elasticity and heat and water
 resistance for semiconductor devices)
- IT Polyacetylenes, uses
 RL: CPS (Chemical process); DEV (Device component use); IMF
 (Industrial manufacture); PEP (Physical, engineering or chemical
 process); TEM (Technical or engineered material use); PREP
 (Preparation); PROC (Process); USES (Uses)
 (polybenzoxazole-polyoxyalkylene-; polyacetylene-
 polybenzoxazole-based porous **elec. insulator**
 films with good elasticity and heat and water resistance for
 semiconductor devices)
- IT Polyethers, uses
 RL: CPS (Chemical process); DEV (Device component use); IMF
 (Industrial manufacture); PEP (Physical, engineering or chemical
 process); TEM (Technical or engineered material use); PREP
 (Preparation); PROC (Process); USES (Uses)
 (polyester-, reaction products with OH-containing polyamides;
 polyacetylene-polybenzoxazole-based porous **elec.**
insulator films with good elasticity and heat and water
 resistance for semiconductor devices)
- IT Polyesters, uses
 RL: CPS (Chemical process); DEV (Device component use); IMF
 (Industrial manufacture); PEP (Physical, engineering or chemical
 process); TEM (Technical or engineered material use); PREP
 (Preparation); PROC (Process); USES (Uses)
 (polyether-, reaction products with OH-containing polyamides;
 polyacetylene-polybenzoxazole-based porous **elec.**
insulator films with good elasticity and heat and water
 resistance for semiconductor devices)
- IT Films
 (porous; polyacetylene-polybenzoxazole-based porous
elec. insulator films with good elasticity
 and heat and water resistance for semiconductor devices)
- IT Polyesters, uses
 Polyurethanes, uses
 RL: CPS (Chemical process); DEV (Device component use); IMF
 (Industrial manufacture); PEP (Physical, engineering or chemical
 process); TEM (Technical or engineered material use); PREP
 (Preparation); PROC (Process); USES (Uses)
 (reaction products with OH-containing polyamides;
 polyacetylene-polybenzoxazole-based porous **elec.**
insulator films with good elasticity and heat and water
 resistance for semiconductor devices)
- IT 9003-53-6DP, Polystyrene, aminobenzoate-terminated, reaction
 products with OH-containing polyamides 25248-42-4DP,
 Polycaprolactone, sru, polyols, reaction products with OH-containing
 polyamides 677716-71-1P 677716-73-3P
 677716-75-5P 677716-76-6P 677716-77-7DP
 , reaction products with aminobenzoate-terminated polystyrene
 677716-78-8P 677716-79-9P

RL: CPS (Chemical process); DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(polyacetylene-polybenzoxazole-based porous **elec. insulator** films with good elasticity and heat and water resistance for semiconductor devices)

L121 ANSWER 10 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:251776 HCAPLUS

DOCUMENT NUMBER: 140:294462

TITLE: **Electric insulating film**
for semiconductor element in semiconductor devices

INVENTOR(S): Hirata, Akihiro

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004095863	A2	20040325	JP 2002-255114	2002 0830

PRIORITY APPLN. INFO.: JP 2002-255114

2002
0830

AB The title film is made of **elec. insulative** materials on a silicone wafer and has 0.1-30 % shrinkage in the thickness direction after heat cured at 340-420° C for one hour and following heat treatment at 340-420° C for 10-15 h. The insulating film shows the good contact with a substrate and low specific inductive capacity.

IT 675836-29-0P, 2,2-Bis(3-amino-4-hydroxyphenyl)propane-5-Ethynylisophthaloyl dichloride-Polypropylene glycol bis(2-aminopropyl ether) copolymer 675836-30-3P, 3,3'-Diamino-4,4'-dihydroxybiphenyl-5-Ethynylisophthaloyl dichloride-Polypropylene glycol bis(2-aminopropyl ether) copolymer 675836-32-5P

RL: DEV (Device component use); PNU (Preparation, unclassified);

PREP (Preparation); USES (Uses)

(**elec. insulating** film for semiconductor element in semiconductor devices)

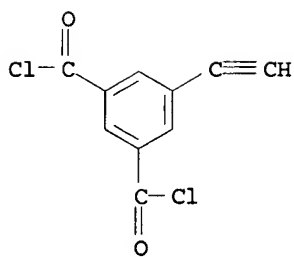
RN 675836-29-0 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, 5-ethynyl-, polymer with α -(2-aminopropyl)- ω -(2-aminopropoxy)poly[oxy(methyl-1,2-ethanediyl)] and 4,4'-(1-methylethylidene)bis[2-aminophenol], block (9CI) (CA INDEX NAME)

CM 1

CRN 393543-05-0

CMF C10 H4 C12 O2

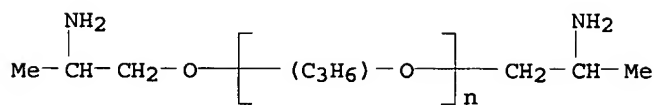


CM 2

CRN 26403-64-5

CMF (C3 H6 O)_n C6 H16 N2 O

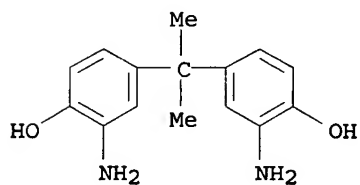
CCI IDS, PMS



CM 3

CRN 1220-78-6

CMF C15 H18 N2 O2



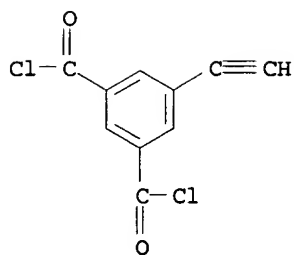
RN 675836-30-3 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, 5-ethynyl-, polymer with
 α-(2-aminopropyl)-ω-(2-aminopropoxy)poly[oxy(methyl-
 1,2-ethanediyl)] and 3,3'-diamino[1,1'-biphenyl]-4,4'-diol (9CI)
 (CA INDEX NAME)

CM 1

CRN 393543-05-0

CMF C10 H4 Cl2 O2

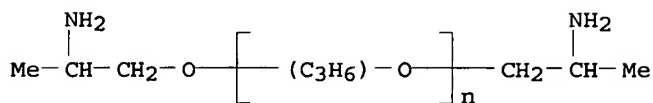


CM 2

CRN 26403-64-5

CMF (C3 H6 O)_n C6 H16 N2 O

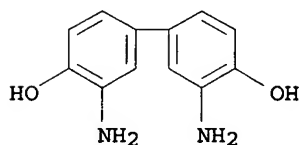
CCI IDS, PMS



CM 3

CRN 4194-40-5

CMF C12 H12 N2 O2



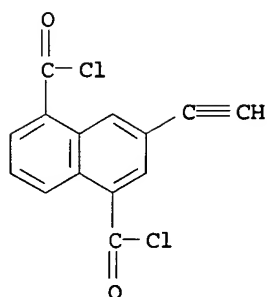
RN 675836-32-5 HCAPLUS

CN 1,5-Naphthalenedicarbonyl dichloride, 3-ethynyl-, polymer with
 α -(2-aminopropyl)- ω -(2-aminopropoxy)poly[oxy(methyl-
 1,2-ethanediyl)] and 4,4'-(1-methylethylidene)bis[2-aminophenol]
 (9CI) (CA INDEX NAME)

CM 1

CRN 675836-31-4

CMF C14 H6 Cl2 O2

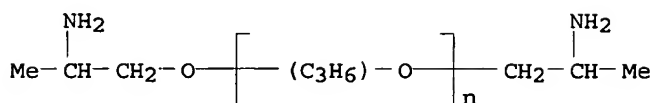


CM 2

CRN 26403-64-5

CMF (C3 H6 O)_n C6 H16 N2 O

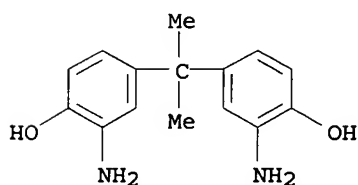
CCI IDS, PMS



CM 3

CRN 1220-78-6

CMF C15 H18 N2 O2



IC ICM H01L021-312

ICS C08G073-22; H01L021-768

CC 73-3 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST **elec insulating** film semiconductor device

IT Dielectric films

Semiconductor **device** fabricationSemiconductor **devices**

(elec. insulating film for semiconductor element in semiconductor devices)

IT Polymers, uses

RL: DEV (Device component use); PNU (Preparation, unclassified);

PREP (Preparation); USES (Uses)

(heat curable; **elec. insulating** film for semiconductor element in semiconductor devices)IT **675836-29-0P**, 2,2-Bis(3-amino-4-hydroxyphenyl)propane-5-Ethynylisophthaloyl dichloride-Polypropylene glycol

bis(2-aminopropyl ether) copolymer **675836-30-3P**,
 3,3'-Diamino-4,4'-dihydroxybiphenyl-5-Ethynylisophthaloyl
 dichloride-Polypropylene glycol bis(2-aminopropyl ether) copolymer
675836-32-5P

RL: DEV (Device component use); PNU (Preparation, unclassified);
 PREP (Preparation); USES (Uses)
 (elec. insulating film for semiconductor
 element in semiconductor devices)

L121 ANSWER 11 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:219168 HCAPLUS

DOCUMENT NUMBER: 140:278413

TITLE: Positive photoimaging precursor compositions
 with high resolution and sensitivity, and
 semiconductor electric
 components and organic
 electroluminescence devices
 using them

INVENTOR(S): Suwa, Atsushi; Fujita, Yoji; Tomikawa, Masao

PATENT ASSIGNEE(S): Toray Industries, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 37 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004085622	A2	20040318	JP 2002-242586	2002 0822
PRIORITY APPLN. INFO.:				2002 0822
				2002 0822

AB The compns. comprise (A) alkali-soluble heat-resistant resin
 precursors (e.g. polyamic acids), (B) heat-polymerizable compds.
 having phenolic OH and ethylenically unsatd. groups
 (CH₂)_aCR₃:CR₁R₂ (R₁-3 = H, C1-20-alkyl, phenoxy; a = 0-5) and/or
 those having acetylenically unsatd. groups (CH₂)_aC.tplbond.CR₁
 (R₁, a = same as above), and (C) quinonediazide esters.

IT **281653-60-9P**

RL: DEV (Device component use); IMF (Industrial manufacture); TEM
 (Technical or engineered material use); PREP (Preparation); USES
 (Uses)

(pos. photoimaging polyamic acid compns. with high resolution and
 sensitivity for semiconductor devices and organic EL displays)

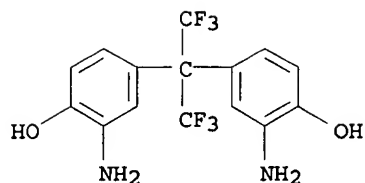
RN 281653-60-9 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, polymer with oxybis[benzoyl
 chloride] and 4,4'-[2,2,2-trifluoro-1-
 (trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX
 NAME)

CM 1

CRN 83558-87-6

CMF C15 H12 F6 N2 O2

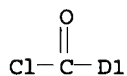


CM 2

CRN 50975-64-9
 CMF C14 H8 C12 O3
 CCI IDS

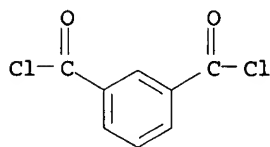


1/2 (D1-O-D1)



CM 3

CRN 99-63-8
 CMF C8 H4 C12 O2



- IC ICM G03F007-037
 ICS C08F012-34; C08F038-00; C08G069-26; G03F007-025; G03F007-027;
 G03F007-40; H01L021-027
- CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 38, 76
- ST pos photoimaging compn polyamic acid sensitivity; org
electroluminescence device polyimide pos
 photoimaging; semiconductor device acetylenyl ethenyl photoimaging
 insulator
- IT **Electroluminescent devices**
 (displays; pos. photoimaging polyamic acid compns. with high
 resolution and sensitivity for semiconductor devices and organic EL

displays)
IT **Electric insulators**
Photoimaging materials
Semiconductor devices
(pos. photoimaging polyamic acid compns. with high resolution and sensitivity for semiconductor devices and organic EL displays)
IT 108-31-6DP, Maleic anhydride, reaction products with polyamic acids 151402-72-1DP, aminophenol-terminated **281653-60-9P** 433264-94-9DP, maleic anhydride-terminated
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. photoimaging polyamic acid compns. with high resolution and sensitivity for semiconductor devices and organic EL displays)

L121 ANSWER 12 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:55633 HCAPLUS

DOCUMENT NUMBER: 140:103419

TITLE: Polybenzoxazole precursors, photoimaging compositions containing them with good i-line transmission, heat-resistant polybenzoxazole dielectric, and **electric parts** using them

INVENTOR(S): Sasaki, Akihiro; Nomura, Yutaka

PATENT ASSIGNEE(S): Hitachi Chemical Du Pont Micro System Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2004018593	A2	20040122	JP 2002-172884	

2002
0613

PRIORITY APPLN. INFO.: JP 2002-172884

2002
0613

AB The invention relates to polybenzoxazole precursors having a repeating unit COXCONHY(OH)2NH (X = divalent organic group; Y = tetravalent organic group; X and/or Y having adamantane structure in a main chain). The **elec. parts** have the polybenzoxazole layers as a surface protective films or interlayer insulators.

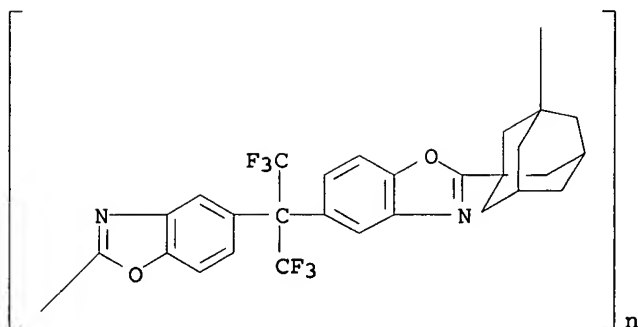
IT **645403-31-2P 645403-33-4P 645403-35-6P**

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(photoimaging compns. having adamantane-containing polybenzoxazole precursors with good i-line transmission for heat-resistant interlayer dielec.)

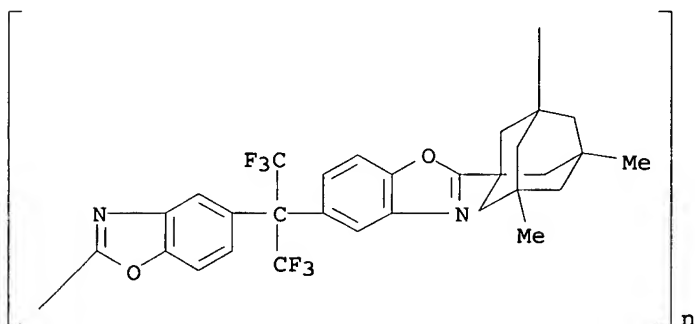
RN 645403-31-2 HCAPLUS

CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyltricyclo[3.3.1.1³,7]decane-1,3-diyl] (9CI) (CA INDEX NAME)



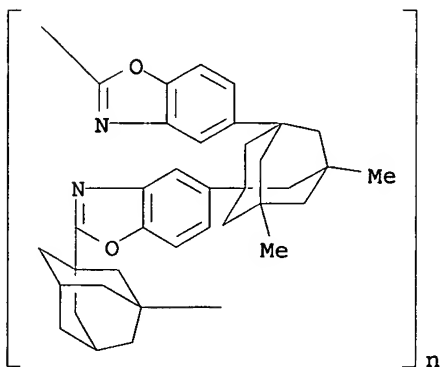
RN 645403-33-4 HCAPLUS

CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl(5,7-dimethyltricyclo[3.3.1.1.3,7]decane-1,3-diyl)] (9CI) (CA INDEX NAME)



RN 645403-35-6 HCAPLUS

CN Poly[2,5-benzoxazolediyl(5,7-dimethyltricyclo[3.3.1.1.3,7]decane-1,3-diyl)-5,2-benzoxazolediyltricyclo[3.3.1.1.3,7]decane-1,3-diyl] (9CI) (CA INDEX NAME)



IC ICM C08G073-22

ICS C08J005-18; G03F007-004; G03F007-037; H01B003-30;

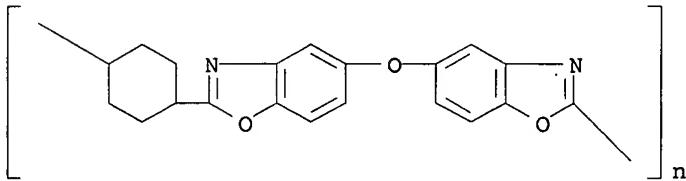
H01L021-027; H01L021-312; H01L021-768; C08L079-04
CC 76-10 (Electric Phenomena)
Section cross-reference(s): 38, 74
ST polybenzoxazole precursor adamantane photoimaging interlayer
insulator; **elec part** polybenzoxazole i line
transmission
IT **Electric apparatus**
Electric insulators
Photoimaging materials
(photoimaging compns. having adamantane-containing polybenzoxazole
precursors with good i-line transmission for heat-resistant
interlayer dielec.)
IT **645403-31-2P 645403-33-4P 645403-35-6P**
RL: DEV (Device component use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)
(photoimaging compns. having adamantane-containing polybenzoxazole
precursors with good i-line transmission for heat-resistant
interlayer dielec.)

L121 ANSWER 13 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:52870 HCAPLUS
DOCUMENT NUMBER: 140:103416
TITLE: Polybenzoxazole precursors with good i-line
transmission, photoimaging compositions,
polybenzoxazoles with good heat resistance and
elongation, and their **electric**
parts
INVENTOR(S): Nomura, Yutaka; Sasaki, Akihiro
PATENT ASSIGNEE(S): Hitachi Chemical Du Pont Micro System Co.,
Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004018594	A2	20040122	JP 2002-172885	2002 0613
PRIORITY APPLN. INFO.:				2002 0613

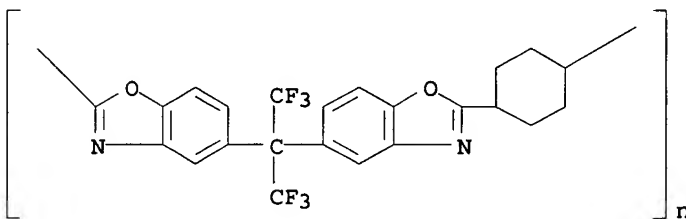
AB The invention relates to polybenzoxazole precursors having a
repeating unit COXCONHY(OH)2NH (X = divalent organic group; Y =
tetravalent organic group; X and/or Y having alicyclic structure in a
main chain) with i-line transmission $\geq 1\%$ at thickness 10
 μm and elongation at break of their cyclized polybenzoxazoles
 $\geq 25\%$. The **elec. parts** have the
polybenzoxazole layers as a surface protective films or interlayer
insulators.
IT **554455-52-6P 645403-45-8P 645403-47-0P**
RL: DEV (Device component use); IMF (Industrial manufacture); PREP
(Preparation); USES (Uses)
(photoimaging compns. having alicyclic-containing polybenzoxazole
precursors with good i-line transmission for heat-resistant
interlayer dielec.)
RN 554455-52-6 HCAPLUS

CN Poly(2,5-benzoxazolediylloxy-5,2-benzoxazolediyl-1,4-cyclohexanediyl) (9CI) (CA INDEX NAME)



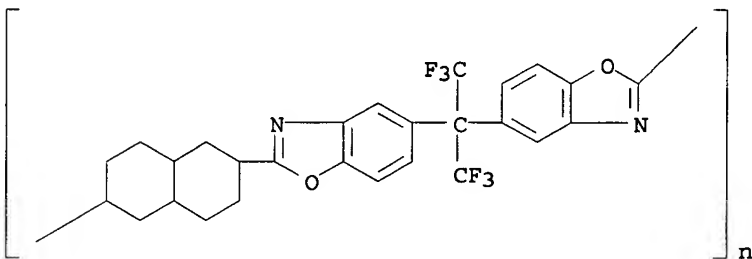
RN 645403-45-8 HCAPLUS

CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl-1,4-cyclohexanediyl] (9CI) (CA INDEX NAME)



RN 645403-47-0 HCAPLUS

CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl(decahydro-2,6-naphthalenediyl)] (9CI) (CA INDEX NAME)



IC ICM C08G073-22

ICS G03F007-004; G03F007-037; H01L021-027; H01L021-312; H01L021-768

CC 76-10 (Electric Phenomena)

Section cross-reference(s): 38, 74

ST polybenzoxazole precursor alicyclic photoimaging interlayer insulator; elec part polybenzoxazole i line transmission

IT Electric apparatus

Electric insulators

Photoimaging materials

(photoimaging compns. having alicyclic-containing polybenzoxazole precursors with good i-line transmission for heat-resistant interlayer dielec.)

IT 554455-52-6P 645403-45-8P 645403-47-0P

RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(photoimaging compns. having alicyclic-containing polybenzoxazole precursors with good i-line transmission for heat-resistant interlayer dielec.)

L121 ANSWER 14 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:17958 HCAPLUS

DOCUMENT NUMBER: 140:60818

TITLE: Manufacture of organic insulating films with good heat stability and low water absorption and of their materials

INVENTOR(S): Izumi, Atsushi; Murayama, Kazumoto

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 33 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2004002735	A2	20040108	JP 2003-78918	

2003
0320

PRIORITY APPLN. INFO.:

JP 2002-96319

A

2002
0329

AB The title films, satisfying thickness 0.05-100 μm and average surface roughness (Ra) $\leq 5\%$ of the thickness, are manufactured by application of organic solvent-based dielec. dispersions or solns. on substrates followed by heat treatment. In the preparation of the dielecs., two kinds of bivalent bisaminophenols (Markush given) are reacted with ethynyl-containing dicarboxylic acids having bivalent functional groups (Markush given) to form polyamides which are then reacted with oligomers having substituents reactive to carboxyl, amino, or hydroxy of the polyamides to give copolymers. The films are useful for cover-coat layers, solder resists, liquid crystal alignment layers, etc. Thus, 3,3'-diamino-4,4'-dihydroxydiphenyl ether 45, 4,4'-diamino-3,3'-dihydroxydiphenyl ether 45, 5-phenylethynylisophthaloyl dichloride 50, and 5-ethynylisophthaloyl dichloride 50 mmol were polymerized at 25° in NMP and then reacted with 9 mmol polypropylene glycol bis(2-aminopropyl) ether in the presence of Et₃N to give a copolymer of Mw 45,000, which was dissolved in cyclohexanone, applied on a Si wafer, and heat treated at 90° and then baked at 400° to give a polybenzoxazole resin layer showing Ra 0.3% of the thickness, Tg >450°, and water absorption 0.2%.

IT 638163-45-8P 638163-46-9P 638163-47-0P

638163-48-1P 638163-49-2P 638163-50-5DP

, reaction products with aminobenzoate-terminated styrene oligomers

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(manufacture of organic dielec. films with good heat stability and low

water absorption for **electronic devices**)

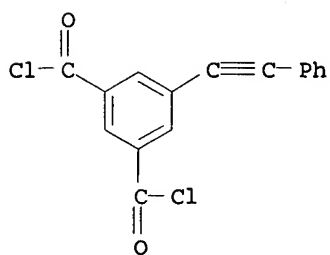
RN 638163-45-8 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, 5-(phenylethynyl)-, polymer with
 α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)],
 2-ethynyl-1,4-benzenedicarbonyl dichloride, 3,3'-oxybis[6-aminophenol] and 4,4'-oxybis[2-aminophenol], block (9CI) (CA
 INDEX NAME)

CM 1

CRN 393543-14-1

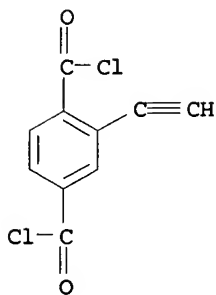
CMF C16 H8 Cl2 O2



CM 2

CRN 393543-09-4

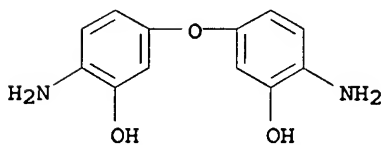
CMF C10 H4 Cl2 O2



CM 3

CRN 20817-05-4

CMF C12 H12 N2 O3

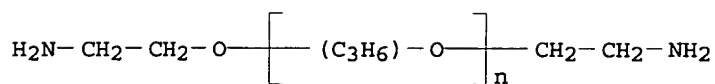


CM 4

CRN 9046-10-0

CMF (C3 H6 O)_n C6 H16 N2 O

CCI IDS, PMS

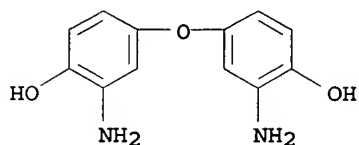


2 (D1-Me)

CM 5

CRN 6423-17-2

CMF C12 H12 N2 O3



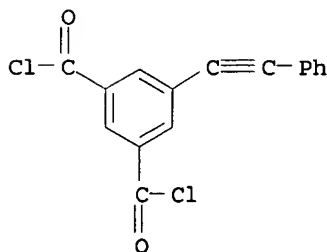
RN 638163-46-9 HCAPLUS

CM 1,3-Benzenedicarbonyl dichloride, 5-(phenylethynyl)-, polymer with α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)], 3,3'-diamino[1,1'-biphenyl]-4,4'-diol, 2-ethynyl-1,4-benzenedicarbonyl dichloride and 3,3'-oxybis[6-aminophenol], block (9CI) (CA INDEX NAME)

CM 1

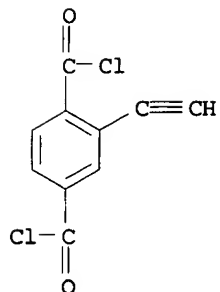
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CMF C16 H8 Cl2 O2



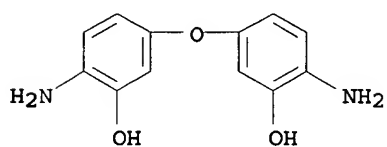
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CRN 393543-09-4
CMF C10 H4 C12 O2



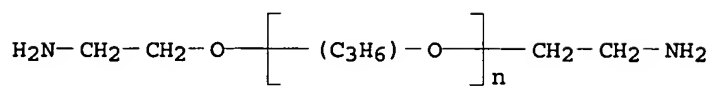
CM 3

CRN 20817-05-4
CMF C12 H12 N2 O3



CM 4

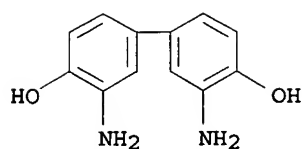
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CMF (C3 H6 O)_n C6 H16 N2 O
CCI IDS, PMS



2 (D1-Me)

CM 5

CRN 4194-40-5
CMF C12 H12 N2 O2



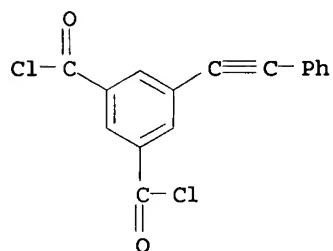
RN 638163-47-0 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, 5-(phenylethynyl)-, polymer with α -(2-aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)], 2-ethynyl-1,4-benzenedicarbonyl dichloride, 3,3'-(9H-fluoren-9-ylidene)bis[6-aminophenol] and 3,3'-oxybis[6-aminophenol], block (9CI) (CA INDEX NAME)

CM 1

CRN 393543-14-1

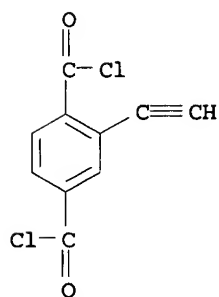
CMF C16 H8 Cl2 O2



CM 2

CRN 393543-09-4

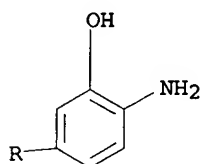
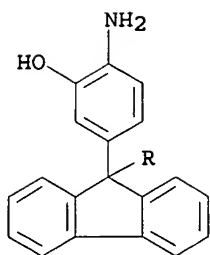
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CM 3

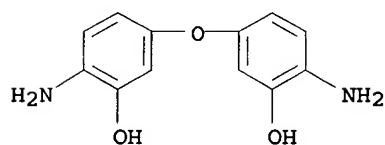
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CMF C25 H20 N2 O2



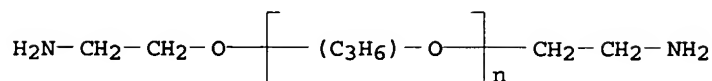
CM 4

CRN 20817-05-4
CMF C12 H12 N2 O3



CM 5

CRN 9046-10-0
CMF (C3 H6 O)_n C6 H16 N2 O
CCI IDS, PMS

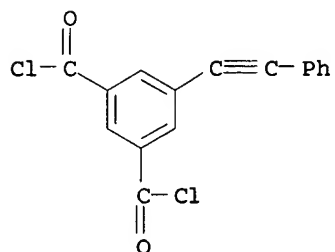


2 (D1-Me)

RN 638163-48-1 HCAPLUS
CN 1,3-Benzenedicarbonyl dichloride, 5-(phenylethynyl)-, polymer with
α-(2-aminomethylethyl)-ω-(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)],
3,3'-diamino[1,1'-biphenyl]-4,4'-diol, 4,4'-diamino[1,1'-biphenyl]-
3,3'-diol and 2-ethynyl-1,4-benzenedicarbonyl dichloride, block
(9CI) (CA INDEX NAME)

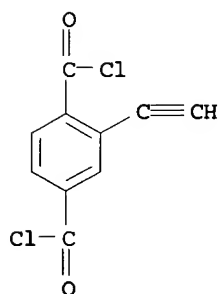
CM 1

CRN 393543-14-1
CMF C16 H8 Cl2 O2



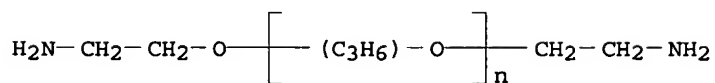
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CRN 393543-09-4
CMF C10 H4 Cl2 O2



CM 3

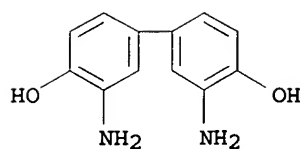
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CMF (C3 H6 O)_n C6 H16 N2 O
CCI IDS, PMS



2 (D1-Me)

CM 4

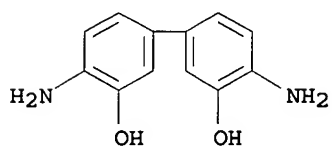
CRN 4194-40-5
CMF C12 H12 N2 O2



CM 5

CRN 2373-98-0

CMF C12 H12 N2 O2



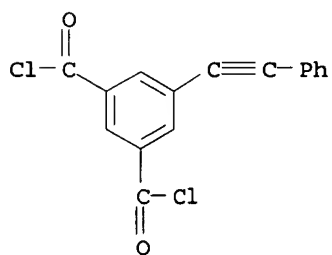
RN 638163-49-2 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, 5-(phenylethynyl)-, polymer with
 2-ethynyl-1,4-benzenedicarbonyl dichloride, 3,3'-(9H-fluoren-9-
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 (CA INDEX NAME)

CM 1

CRN 393543-14-1

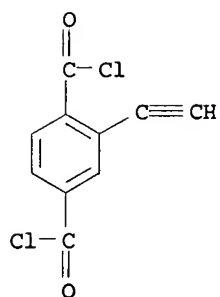
CMF C16 H8 Cl2 O2



CM 2

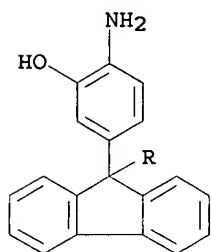
CRN 393543-09-4

CMF C10 H4 Cl2 O2



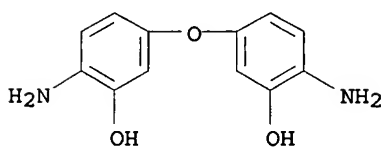
CM 3

CRN 152480-72-3
CMF C25 H20 N2 O2



CM 4

CRN 20817-05-4
CMF C12 H12 N2 O3

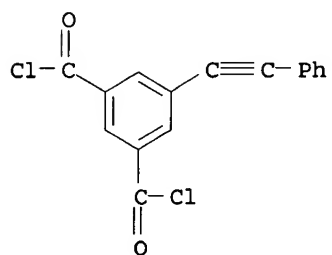


RN 638163-50-5 HCAPLUS

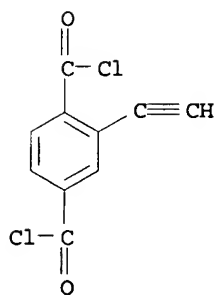
CN 1,3-Benzenedicarbonyl dichloride, 5-(phenylethynyl)-, polymer with
3,3'-diamino[1,1'-biphenyl]-4,4'-diol, 4,4'-diamino[1,1'-biphenyl]-
3,3'-diol and 2-ethynyl-1,4-benzenedicarbonyl dichloride (9CI)

(CA INDEX NAME)

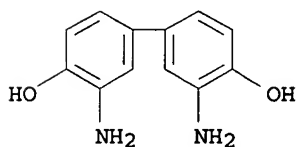
CM 1

CRN 393543-14-1
CMF C16 H8 Cl2 O2

CM 2

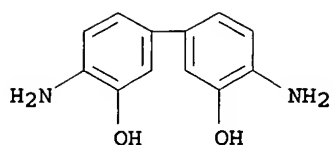
CRN 393543-09-4
CMF C10 H4 Cl2 O2

CM 3

CRN 4194-40-5
CMF C12 H12 N2 O2

CM 4

CRN 2373-98-0
CMF C12 H12 N2 O2



- IC ICM C08G081-00
ICS B05D003-02; B32B005-18; B32B007-02; B32B027-34; H01L021-312;
H05K003-28; H05K003-46
- CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 76
- IT Heat-resistant materials
(dielec., porous, films; manufacture of organic dielec. films with good heat stability and low water absorption for **electronic devices**)
- IT Porous materials
(films, dielec., heat resistant; manufacture of organic dielec. films with good heat stability and low water absorption for **electronic devices**)
- IT Electric insulators
(heat-resistant, porous, films; manufacture of organic dielec. films with good heat stability and low water absorption for **electronic devices**)
- IT Polybenzoxazoles
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(manufacture of organic dielec. films with good heat stability and low water absorption for **electronic devices**)
- IT Polyethers, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polybenzoxazole-; manufacture of organic dielec. films with good heat stability and low water absorption for **electronic devices**)
- IT Polyethers, uses
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(polyester-, block, diol derivs., reaction products with ethynyl-containing polybenzoxazoles; manufacture of organic dielec. films with good heat stability and low water absorption for **electronic devices**)
- IT Polyesters, uses
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(polyether-, block, diol derivs., reaction products with ethynyl-containing polybenzoxazoles; manufacture of organic dielec. films with good heat stability and low water absorption for **electronic devices**)
- IT Polybenzoxazoles
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-; manufacture of organic dielec. films with good heat stability and low water absorption for **electronic devices**)

- devices)
- IT Films
(porous, dielec., heat resistant; manufacture of organic dielec. films with good heat stability and low water absorption for **electronic devices**)
- IT Dielectric films
(porous, heat-resistant; manufacture of organic dielec. films with good heat stability and low water absorption for **electronic devices**)
- IT 150-13-0DP, 4-Aminobenzoic acid, reaction products with oligomeric polystyrene and polybenzoxazoles **638163-45-8P**
638163-46-9P 638163-47-0P 638163-48-1P
638163-49-2P 638163-50-5DP, reaction products with aminobenzoate-terminated styrene oligomers
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(manufacture of organic dielec. films with good heat stability and low water absorption for **electronic devices**)
- IT 75-21-8, Ethylene oxide, reactions 122-04-3, 4-Nitrobenzoic acid chloride 110736-71-5, Placcel 240
RL: RCT (Reactant); RACT (Reactant or reagent)
(manufacture of organic dielec. films with good heat stability and low water absorption for **electronic devices**)
- IT 9003-53-6DP, Polystyrene, reaction products with 4-aminobenzoic acid and polybenzoxazoles 9011-14-7DP, Poly(methyl methacrylate), reaction products with 4-aminobenzoic acid and polybenzoxazoles 25014-31-7DP, α -Methylstyrene homopolymer, p-aminobenzoate-terminated, reaction products with polybenzoxazoles 25248-42-4DP, Polycaprolactone, diol derivs., p-aminobenzoate ester, reaction products with ethynyl-containing polybenzoxazoles
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(oligomeric; manufacture of organic dielec. films with good heat stability and low water absorption for **electronic devices**)

L121 ANSWER 15 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:929990 HCAPLUS

DOCUMENT NUMBER: 140:10608

TITLE: Positive-working photosensitive polymer compositions with high sensitivity, manufacture of relief patterns using them, and **electronic parts** using them

INVENTOR(S): Nunomura, Masataka; Oe, Tadayuki; Nakano, Hajime; Tsumaru, Yoshiko

PATENT ASSIGNEE(S): Hitachi Chemical Du Pont Micro System Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003337415 A2 20031128 JP 2002-143166 2002
0517

EP 1376231 A1 20040102 EP 2003-11014 2003
0516

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,
EE, HU, SK

US 2004029045 A1 20040212 US 2003-440301 2003
0519

PRIORITY APPLN. INFO.: JP 2002-143166 A 2002
0517

JP 2003-69898 A 2003
0314

AB The compns., useful for surface protection films and interlayer
dielects., contain polyimides (or their precursors) bearing
protected acid groups and no amino terminals and photoacid
generators for dissociating the protective groups.

IT 627512-38-3DP, reaction products with vinyl Et ether
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical
or engineered material use); PREP (Preparation); RACT (Reactant or
reagent); USES (Uses)

(pos.-working photosensitive compns. containing polyimide
precursors bearing protected acid groups with high sensitivity
for manufacturing relief patterns for **electronic**
parts)

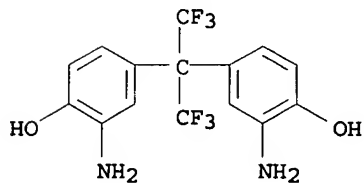
RN 627512-38-3 HCAPLUS

CN 1,2,4-Benzenetricarbonyl trichloride, polymer with
5,5'-oxybis[1,3-isobenzofurandione] and 4,4'-[2,2,2-trifluoro-1-
(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX
NAME)

CM 1

CRN 83558-87-6

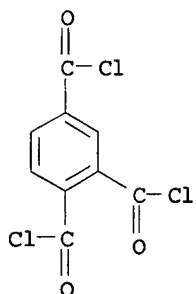
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CM 2

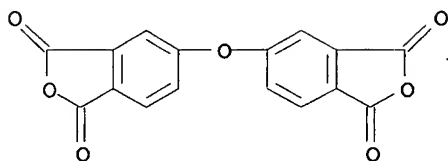
CRN 3867-55-8

CMF C9 H3 Cl3 O3



CM 3

CRN 1823-59-2
CMF C16 H6 O7



- IC ICM G03F007-039
ICS C08G073-10; G03F007-037; H01L021-312
- CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 76
- ST polyimide relief pattern pos photosensitive polymer; interlayer dielec polyimide acid group protection; **electronic part** amino protection polyimide patterning
- IT Polyethers, reactions
Polysulfones, reactions
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polyamic acid-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts**)
- IT Polyethers, reactions
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polyamic acid-polyamide-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts**)
- IT Polyethers, reactions
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polyamic acid-polyester-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for

- electronic parts)**
- IT Polyamides, reactions
Polyesters, reactions
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polyamic acid-polyether-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts)**
- IT Polyimides, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-polyester-polyether-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts)**
- IT Polyethers, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-polyester-polyimide-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts)**
- IT Polyamic acids
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polyamide-polyether-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts)**
- IT Polyimides, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-polyether-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts)**
- IT Polyesters, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-polyether-polyimide-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts)**
- IT Polyethers, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-polyimide-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts)**
- IT Polyamic acids
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polyester-polyether-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts)**
- IT Polyimides, preparation

- RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyester-polyether-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts**)
- IT Polyamides, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyester-polyether-polyimide-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts**)
- IT Polyethers, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyester-polyimide-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts**)
- IT Polyamic acids
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polyether-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts**)
- IT Polyamides, preparation
Polyesters, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-polyimide-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts**)
- IT Polysulfones, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyimide-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts**)
- IT Polyamic acids
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(polysulfone-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts**)
- IT Polyimides, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polysulfone-; pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for **electronic parts**)
- IT **Electric insulators**
Photoimaging materials
(pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity

- for manufacturing relief patterns for **electronic parts**)
- IT Semiconductor devices
(surface protection films and interlayer dielects. for;
pos.-working photosensitive compns. containing polyimide precursors
bearing protected acid groups with high sensitivity for manufacturing
relief patterns for **electronic parts**)
- IT 1823-59-2, 3,3',4,4'-Diphenyl ether tetracarboxylic dianhydride
2215-89-6, 4,4'-Dicarboxydiphenyl ether 7719-09-7, Thionyl
chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(for polyimide preparation; pos.-working photosensitive compns.
containing polyimide precursors bearing protected acid groups with
high sensitivity for manufacturing relief patterns for
electronic parts)
- IT 1143-72-2D, 2,3,4-Trihydroxybenzophenone, reaction products with
naphthoquinonediazidesulfonyl chloride 36451-09-9D,
1,2-Naphthoquinonediazide-4-sulfonyl chloride, reaction products
with trihydroxybenzophenone 85342-62-7 121172-98-3,
p-Nitrobenzyl 9,10-dimethoxyanthracene-2-sulfonate 137308-86-2,
Diphenyliodonium 9,10-dimethoxyanthracene-2-sulfonate
627512-39-4
RL: CAT (Catalyst use); USES (Uses)
(photoacid generator; pos.-working photosensitive compns.
containing polyimide precursors bearing protected acid groups with
high sensitivity for manufacturing relief patterns for
electronic parts)
- IT 98-59-9DP, p-Toluenesulfonyl chloride, reaction products with
diaminodiphenyl ether, polymers with biphenyltetracarboxylic
dianhydride 100-39-0DP, Benzyl bromide, reaction products with
diamine, polymers with tetracarboxylic acid diester dichloride
101-80-4DP, 4,4'-Diaminodiphenyl ether, reaction products with
toluenesulfonyl chloride, polymers with biphenyltetracarboxylic
dianhydride 109-92-2DP, Vinyl ethyl ether, reaction products
with polyimides 110-87-2DP, 3,4-Dihydro-2H-pyran, reaction
products with polyimide precursors 115-11-7DP, Isobutene,
reaction products with amino-protected polyamic acids
542-88-1DP, Chloromethyl ether, reaction products with polyimide
precursors 2420-87-3DP, 3,3',4,4'-Biphenyltetracarboxylic
dianhydride, polymers with partially protected diaminodiphenyl
ether, reaction products with isobutene 7158-32-9DP, polymers
with partially protected diamine and tetracarboxylic acid diester
dichloride, reaction products with dihydropyran 24424-99-5DP,
Di-tert-butyl dicarbonate, reaction products with polyimide
precursors 77238-85-8DP, 3,3',4,4'-Biphenyltetracarboxylic
dianhydride-4,4'-diaminodiphenyl sulfone copolymer, reaction
products with chloromethyl Et ether 83558-87-6DP, reaction
products with benzyl bromide, polymers with tetracarboxylic acid
diester dichloride 121333-86-6DP, 2,2-Bis(3-amino-4-
hydroxyphenyl)hexafluoropropane-3,3',4,4'-diphenyl ether
tetracarboxylic dianhydride copolymer, reaction products with
di-t-Bu dicarbonate 158853-02-2DP, reaction products with
chloromethyl Et ether 172520-37-5DP, 2,2-Bis(3-amino-4-
hydroxyphenyl)hexafluoropropane-3,3',4,4'-diphenyl ether
tetracarboxylic dianhydride copolymer, polyamic acid SRU, reaction
products with di-t-Bu dicarbonate 627512-38-3DP,
reaction products with vinyl Et ether
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical
or engineered material use); PREP (Preparation); RACT (Reactant or
reagent); USES (Uses)
(pos.-working photosensitive compns. containing polyimide
precursors bearing protected acid groups with high sensitivity

for manufacturing relief patterns for electronic parts)

IT 77243-66-4P 121334-10-9P, 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane-3,3',4,4'-diphenyl ether tetracarboxylic dianhydride copolymer, polyimide SRU
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos.-working photosensitive compns. containing polyimide precursors bearing protected acid groups with high sensitivity for manufacturing relief patterns for electronic parts)

L121 ANSWER 16 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:607798 HCAPLUS

DOCUMENT NUMBER: 139:171098

TITLE: Electric circuit substrate having optical waveguide made of fluorine-containing polybenzoxazole

INVENTOR(S): Otsuki, Tomohito

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003222744	A2	20030808	JP 2002-22536	2002 0130
PRIORITY APPLN. INFO.:				2002 0130

AB The elec. circuit board has the optical waveguide made of a F-containing polybenzoxazole obtained by ring closure of a precursor [C(O)NHXNHC(O)Y]_n (X and/or Y is F-containing divalent organic group and the rest is a divalent organic group; n = 1-1000). The optical waveguide may consist of a core and a clad. The substrate may be a ceramic substrate, a Si single or multilayer circuit board, or an organic single or multilayer circuit board. The single mode optical waveguide, whose n is accurately regulated, is suitable for high-speed optical information processing under low elec. power.

IT 335232-16-1P 438202-03-0P, 2,2'-Bis(trifluoromethyl)-4,4'-biphenylenedicarboxylic chloride-1,3-diamino-4,6-dihydroxydifluorobenzene copolymer
438202-06-3P 438202-21-2P 438202-23-4P
438202-30-3P 438202-32-5P 438202-35-8P
438202-38-1P 438202-41-6P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(elec. circuit substrate having optical waveguide made of fluorine-containing polybenzoxazole)

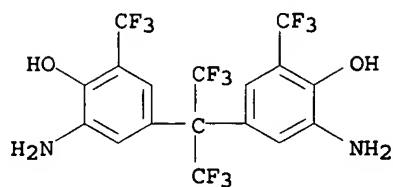
RN 335232-16-1 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-dicarbonyl dichloride, 2,2'-bis(trifluoromethyl)-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-amino-6-(trifluoromethyl)phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 265311-51-1

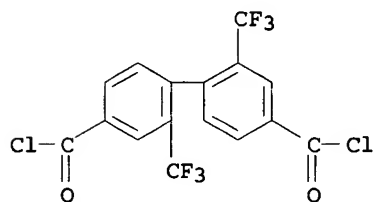
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CM 2

CRN 86536-25-6

CMF C16 H6 Cl2 F6 O2



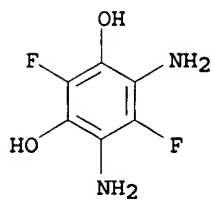
RN 438202-03-0 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-dicarbonyl dichloride, 2,2'-bis(trifluoromethyl)-, polymer with 4,6-diamino-2,5-difluoro-1,3-benzenediol (9CI) (CA INDEX NAME)

CM 1

CRN 276870-15-6

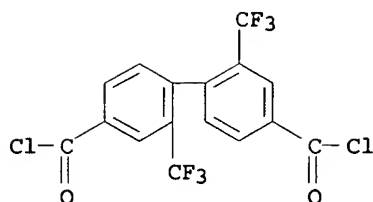
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CM 2

CRN 86536-25-6

CMF C16 H6 Cl2 F6 O2



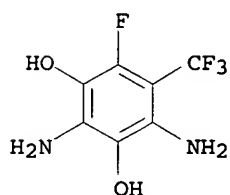
RN 438202-06-3 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-dicarbonyl dichloride, 2,2'-bis(trifluoromethyl)-, polymer with 2,4-diamino-6-fluoro-5-(trifluoromethyl)-1,3-benzenediol (9CI) (CA INDEX NAME)

CM 1

CRN 438202-05-2

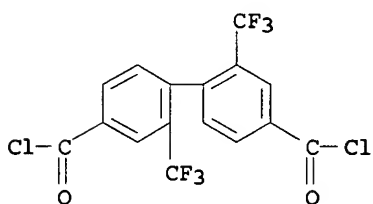
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CM 2

CRN 86536-25-6

CMF C16 H6 Cl2 F6 O2



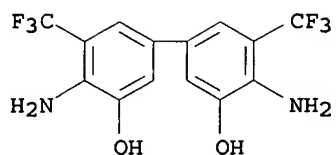
RN 438202-21-2 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-dicarbonyl dichloride, 2,2'-bis(trifluoromethyl)-, polymer with 4,4'-diamino-5,5'-bis(trifluoromethyl)[1,1'-biphenyl]-3,3'-diol (9CI) (CA INDEX NAME)

CM 1

CRN 438202-20-1

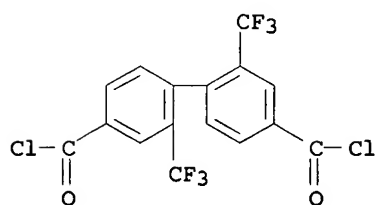
CMF C14 H10 F6 N2 O2



CM 2

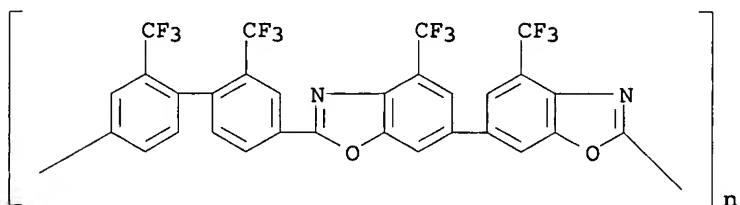
CRN 86536-25-6

CMF C16 H6 Cl2 F6 O2



RN 438202-23-4 HCAPLUS

CN Poly[[4,4'-bis(trifluoromethyl) [6,6'-bibenzoxazole]-2,2'-diyl] [2,2'-bis(trifluoromethyl) [1,1'-biphenyl]-4,4'-diyl]] (9CI)
(CA INDEX NAME)



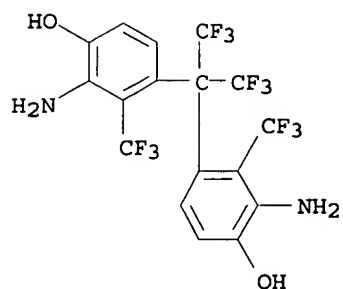
RN 438202-30-3 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-dicarbonyl dichloride, 2,2'-bis(trifluoromethyl)-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-amino-3-(trifluoromethyl)phenol] (9CI) (CA INDEX NAME)

CM 1

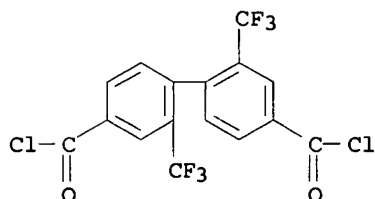
CRN 438202-29-0

CMF C17 H10 F12 N2 O2



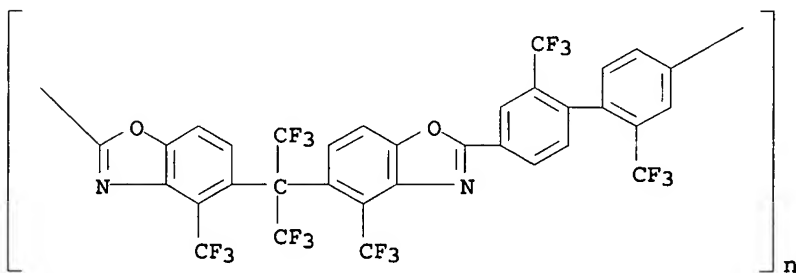
CM 2

CRN 86536-25-6
CMF C16 H6 C12 F6 O2



RN 438202-32-5 HCAPLUS

CN Poly[[4-(trifluoromethyl)-2,5-benzoxazolediyl][2,2,2-trifluoro-1-(trifluoromethyl)ethylidene][4-(trifluoromethyl)-5,2-benzoxazolediyl][2,2'-bis(trifluoromethyl)[1,1'-biphenyl]-4,4'-diyl]] (9CI) (CA INDEX NAME)

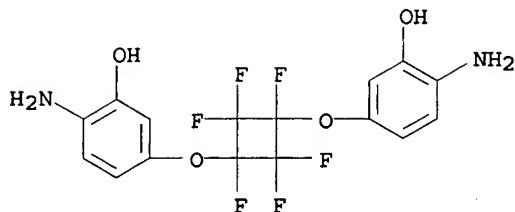


RN 438202-35-8 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-dicarbonyl dichloride, 2,2'-bis(trifluoromethyl)-, polymer with 3,3'-[(1,2,2,3,4,4-hexafluoro-1,3-cyclobutanediyl)bis(oxy)]bis[6-aminophenol] (9CI) (CA INDEX NAME)

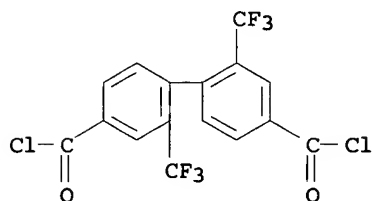
CM 1

CRN 438202-34-7
CMF C16 H12 F6 N2 O4

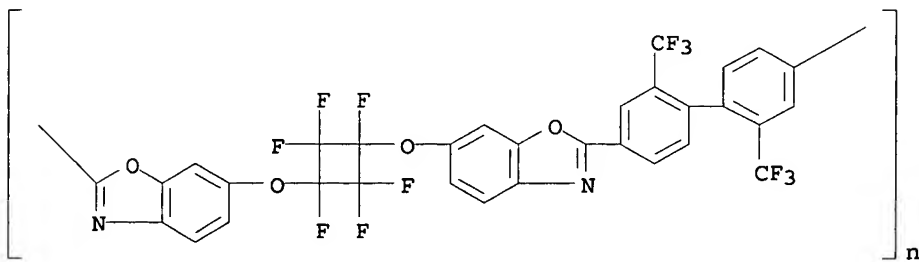


CM 2

CRN 86536-25-6
CMF C16 H6 Cl2 F6 O2



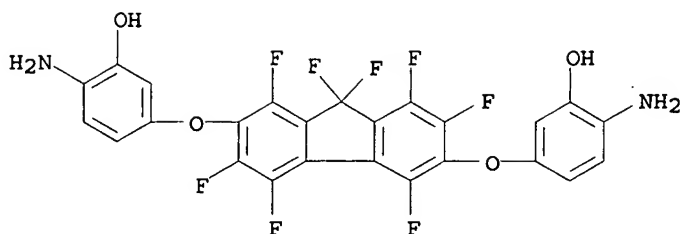
RN 438202-38-1 HCAPLUS
CN Poly[2,6-benzoxazolediyl oxy(1,2,2,3,4,4-hexafluoro-1,3-cyclobutanediyl) oxy-6,2-benzoxazolediyl [2,2'-bis(trifluoromethyl) [1,1'-biphenyl]-4,4'-diyl]] (9CI) (CA INDEX NAME)



RN 438202-41-6 HCAPLUS
CN [1,1'-Biphenyl]-4,4'-dicarbonyl dichloride, 2,2'-bis(trifluoromethyl)-, polymer with 3,3'-[(1,2,4,5,6,8,9,9-octafluoro-9H-fluorene-3,7-diyl)bis(oxy)]bis[6-aminophenol] (9CI) (CA INDEX NAME)

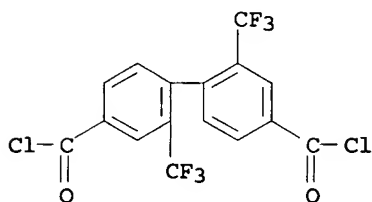
CM 1

CRN 438202-40-5
CMF C25 H12 F8 N2 O4



CM 2

CRN 86536-25-6
CMF C16 H6 Cl2 F6 O2



IC ICM G02B006-12
ICS C08G073-22; G02B006-13; H05K001-02
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 38, 57, 76
IT Photodiodes
Semiconductor devices
Semiconductor lasers
(on elec. circuit substrate having optical waveguide made of fluorine-containing polybenzoxazole)
IT **Electric insulators**
(polybenzoxazole; in elec. circuit substrate having optical waveguide made of fluorine-containing polybenzoxazole)
IT 335232-16-1P 335232-17-2P 438202-03-0P,
2,2'-Bis(trifluoromethyl)-4,4'-biphenylenedicarboxylic chloride-1,3-diamino-4,6-dihydroxydifluorobenzene copolymer
438202-04-1P 438202-06-3P 438202-10-9P 438202-11-0P
438202-12-1P 438202-14-3P 438202-18-7P 438202-21-2P
438202-23-4P 438202-25-6P 438202-30-3P
438202-32-5P 438202-35-8P 438202-38-1P
438202-41-6P 438527-23-2P 438527-30-1P 575455-24-2P
575465-21-3P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(elec. circuit substrate having optical waveguide made of fluorine-containing polybenzoxazole)

L121 ANSWER 17 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:349523 HCAPLUS

DOCUMENT NUMBER: 138:354926

TITLE: **Electrically insulating**
films, materials and coating varnishes for
them, and semiconductor devices

INVENTOR(S): Oki, Hiromi; Nakashima, Michio; Hase, Yoko;
Izumi, Atsushi
PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003128990	A2	20030508	JP 2001-331959	2001 1030
PRIORITY APPLN. INFO.:				2001 1030

AB **Elec. insulating films**, useful as interlayer dielec. films for multilayer wiring boards or surface protective layers for semiconductors, have fine pores and comprise resin layers mainly comprising polybenzoxazole structures, prepared by thermal condensation and crosslinking reactions of materials or varnishes containing film-forming polyamide copolymers prepared by reaction of polyamides $[NHX(OH)2NHCOYCO]_m[NHX(OH)2NHCOZCO]_n$ [R1-R4 = H, monovalent organic group; X = aromatic ring-containing tetravalent group; Y = divalent group; Z = divalent group (structures of X, Y, and Z are given); $m > 0$; $n \geq 0$; $2 \leq m + n \leq 1000$; $0.05 \leq m/(m + n) \leq 1$] having branched structures prepared from bisaminophenols and polybasic carboxylic acids, with reactive oligomers having substituents reactive towards carboxyl, amino, or OH groups in the polyamide structures. Thus, 2,2-bis(3-amino-4-hydroxyphenyl)hexafluoropropane 35.9, trimesic acid trichloride 0.53, and 4-ethynyl-2,6-naphthalenedicarboxylic acid dichloride 27.7 g were polymerized in N-methyl-2-pyrrolidone (NMP), the reaction mixture was mixed with Et3N, and stirred with a γ -butyrolactone solution containing 4-aminobenzoate ester-terminated styrene oligomer (Mn 9600; preparation given) to give a copolymer containing 37% reactive oligomer units, which was dissolved in NMP, applied on an Al-deposited Si wafer, dried at 120° for 240 s, heated at 300° for 60 min under N to form a film of a polybenzoxazole having styrene oligomer units at the terminals, and heated at 400° for 60 min for decomposition of the oligomer units to form a polybenzoxazole film having ≤ 15 -nm pores, dielec. constant (at 1 MHz) 2.1, heat resistance 563°, Tg >450°, and water absorption 0.2%. An electrode pattern was formed on the polybenzoxazole film by vapor deposition of Al.

IT 519142-88-2DP, reaction products with aminobenzoate-terminated styrene oligomer 519142-89-3P
519142-90-6P 519142-91-7P 519142-93-9P
519142-94-0P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(thermally decomposed, polybenzoxazole; elec. insulating polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)

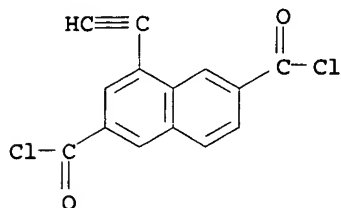
RN 519142-88-2 HCAPLUS

CN 1,3,5-Benzenetricarbonyl trichloride, polymer with

4-ethynyl-2,6-naphthalenedicarbonyl dichloride and
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethyldiene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

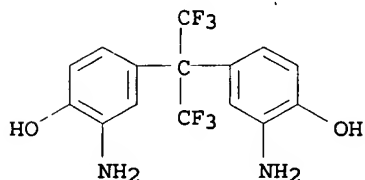
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CRN 405931-94-4
CMF C14 H6 Cl2 O2



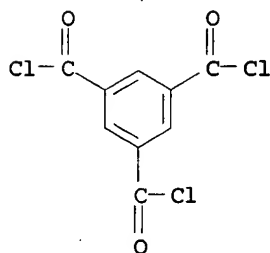
CM 2

CRN 83558-87-6
CMF C15 H12 F6 N2 O2



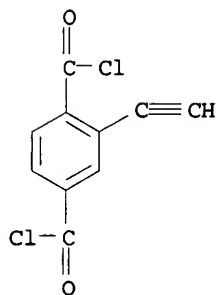
CM 3

CRN 4422-95-1
CMF C9 H3 Cl3 O3

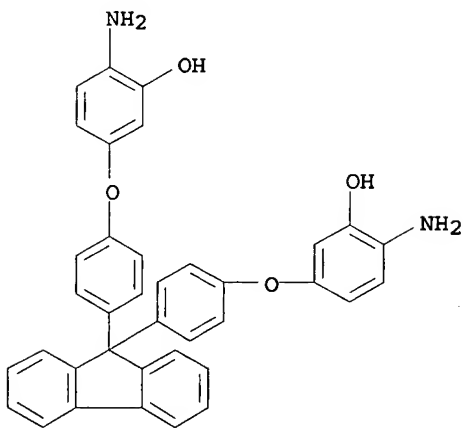


RN 519142-89-3 HCAPLUS
CN [1,1'-Biphenyl]-3,3',5,5'-tetracarbonyl tetrachloride, polymer
with α-(2-aminopropyl)-ω-(2-aminopropoxy)poly[oxy(methyl-1,2-ethanediyl)],
2-ethynyl-1,4-benzenedicarbonyl dichloride and
3,3'-[9H-fluoren-9-ylidenebis(4,1-phenyleneoxy)]bis[6-aminophenol]
(9CI) (CA INDEX NAME)

CM 1

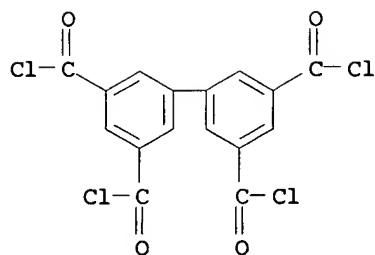
CRN 393543-09-4
CMF C10 H4 Cl2 O2

CM 2

CRN 359642-31-2
CMF C37 H28 N2 O4

CM 3

CRN 113797-72-1
CMF C16 H6 Cl4 O4

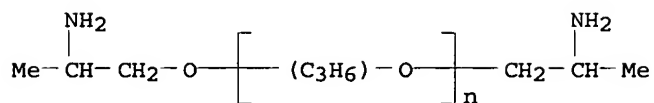


CM 4

CRN 26403-64-5

CMF (C3 H6 O)_n C6 H16 N2 O

CCI IDS, PMS



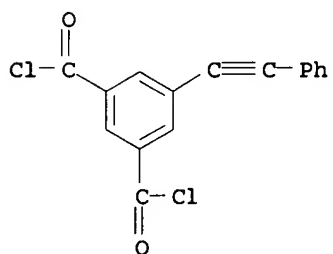
RN 519142-90-6 HCAPLUS

CN 1,3,5-Benzenetricarbonyl trichloride, polymer with
 α -(2-aminopropyl)- ω -(2-aminopropoxy)poly[oxy(methyl-
 1,2-ethanediyl)], 1,4-benzenedicarbonyl dichloride,
 3,3'-diamino[1,1'-biphenyl]-4,4'-diol and 5-(phenylethynyl)-1,3-
 benzenedicarbonyl dichloride (9CI) (CA INDEX NAME)

CM 1

CRN 393543-14-1

CMF C16 H8 Cl2 O2

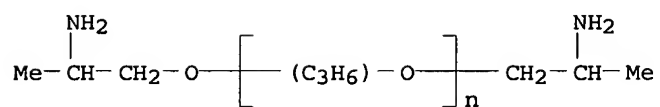


CM 2

CRN 26403-64-5

CMF (C3 H6 O)_n C6 H16 N2 O

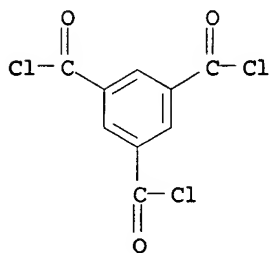
CCI IDS, PMS



CM 3

CRN 4422-95-1

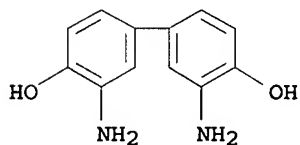
CMF C9 H3 Cl3 O3



CM 4

CRN 4194-40-5

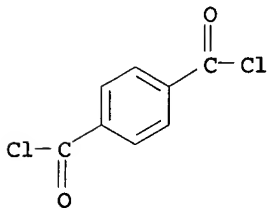
CMF C12 H12 N2 O2



CM 5

CRN 100-20-9

CMF C8 H4 Cl2 O2



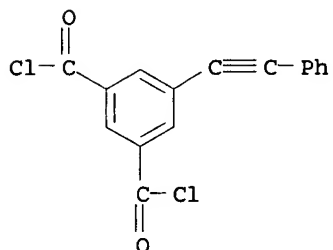
RN 519142-91-7 HCAPLUS

CN 1,2,4-Benzenetricarbonyl trichloride, polymer with
 α -(2-aminopropyl)- ω -(2-aminopropoxy)poly[oxy(methyl-
 1,2-ethanediyl)], 3,3'-diamino[1,1'-biphenyl]-4,4'-diol,

2-ethynyl-1,4-benzenedicarbonyl dichloride and
5-(phenylethynyl)-1,3-benzenedicarbonyl dichloride (9CI) (CA
INDEX NAME)

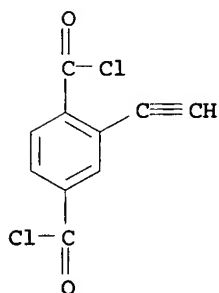
CM 1

CRN 393543-14-1
CMF C16 H8 Cl2 O2



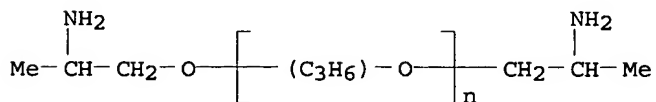
CM 2

CRN 393543-09-4
CMF C10 H4 Cl2 O2



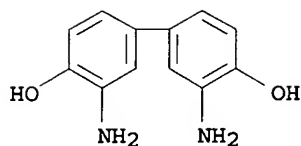
CM 3

CRN 26403-64-5
CMF (C3 H6 O)_n C6 H16 N2 O
CCI IDS, PMS



CM 4

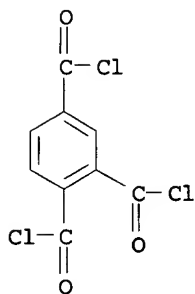
CRN 4194-40-5
CMF C12 H12 N2 O2



CM 5

CRN 3867-55-8

CMF C9 H3 Cl3 O3



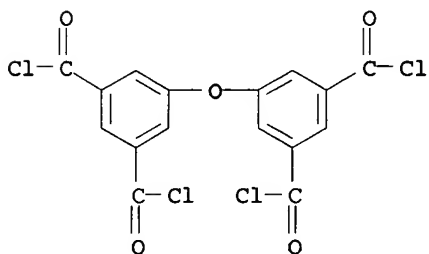
RN 519142-93-9 HCAPLUS

CN 2,7-Biphenylenedicarbonyl dichloride, polymer with
 α -(2-aminopropyl)- ω -(2-aminopropoxy)poly[oxy(methyl-
 1,2-ethanediyl)], 5,5'-oxybis[1,3-benzenedicarbonyl dichloride]
 and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-
 aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 519142-92-8

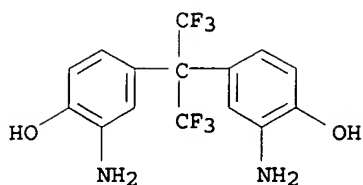
CMF C16 H6 Cl4 O5



CM 2

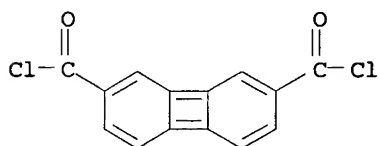
CRN 83558-87-6

CMF C15 H12 F6 N2 O2



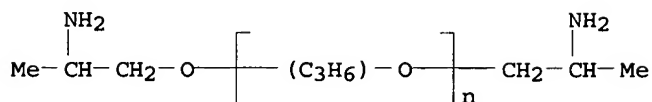
CM 3

CRN 69417-81-8
CMF C14 H6 C12 O2



CM 4

CRN 26403-64-5
CMF (C3 H6 O)_n C6 H16 N2 O
CCI IDS, PMS

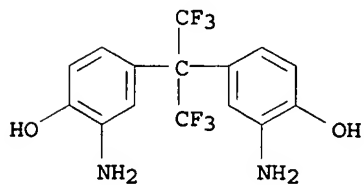


RN 519142-94-0 HCAPLUS

CN 1,3,5-Cyclohexanetricarbonyl trichloride, polymer with
α-(2-aminopropyl)-ω-(2-aminopropoxy)poly[oxy(methyl-
1,2-ethanediyl)], 4,4'-(1,2-ethynediyl)bis[benzoyl chloride] and
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethyldiene]bis[2-
aminophenol] (9CI) (CA INDEX NAME)

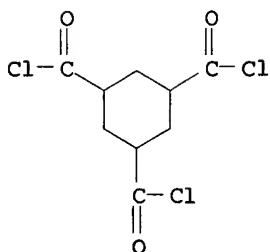
CM 1

CRN 83558-87-6
CMF C15 H12 F6 N2 O2



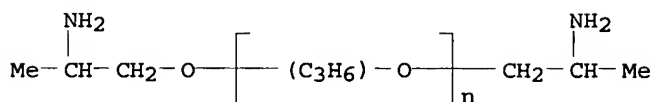
CM 2

CRN 29305-31-5
 CMF C9 H9 Cl3 O3



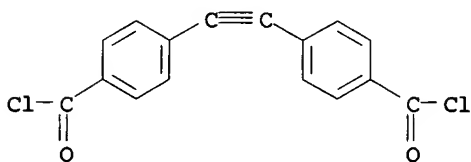
CM 3

CRN 26403-64-5
 CMF (C3 H6 O)_n C6 H16 N2 O
 CCI IDS, PMS



CM 4

CRN 16819-44-6
 CMF C16 H8 Cl2 O2



IC ICM C09D177-00
 ICS C08G073-22; C08J009-02; C09D005-25; C09D177-06; C09D179-04;
 H01B003-30; H05K003-28; H05K003-46; C08L079-04
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 25, 35, 37, 42, 76
 ST **elec insulating** porous film polybenzoxazole
 semiconductor; reactive oligomer polyamide polybenzoxazole porous
 film; aminobenzoate polystyrene polyamide polybenzoxazole porous
 film; heat water resistance dielec coating polybenzoxazole;
 multilayer wiring board insulator film polybenzoxazole
 IT **Electric insulators**
 (coatings; **elec. insulating** polybenzoxazole
 films having fine pores prepared by heating of copolymers from
 branched polyamides and reactive oligomers for semiconductor
 devices)

- IT Semiconductor devices
Varnishes
(**elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polybenzoxazoles
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polyamides, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(fluorine-containing; **elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polybenzoxazoles
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluorine-containing; **elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Dielectric films
(heat- and water-resistant; **elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Water-resistant materials
(heat-resistant, dielec. films; **elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Printed circuit boards
(multilayer; **elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polybenzoxazoles
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polyacetylene-, fluorine-containing; **elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polyacetylene-polyamide-, fluorine-containing; **elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Fluoropolymers, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polyacetylene-polyamide-polyoxyalkylene-; **elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Fluoropolymers, preparation

- RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polyacetylene-polybenzoxazole-; **elec.**
insulating polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polyamides, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polyacetylene-polyoxyalkylene-, fluorine-containing; **elec.**
insulating polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Fluoropolymers, preparation
Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polyamide-; **elec. insulating**
polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polyamide-polyether-, cardo; **elec.**
insulating polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polyamide-polyether-, fluorine-containing; **elec.**
insulating polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polyamide-polyether-; **elec. insulating**
polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Cardo polymers
Fluoropolymers, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polyamide-polyether-polyoxyalkylene-; **elec.**
insulating polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polyethers, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polyamide-polyoxyalkylene, fluorine-containing; **elec.**
insulating polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polyethers, preparation
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(polyamide-polyoxyalkylene-, cardo; **elec.**
insulating polybenzoxazole films having fine pores

- prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polyacetylenes, preparation
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (polyamide-polyoxyalkylene-, fluorine-containing; **elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polyethers, preparation
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (polyamide-polyoxyalkylene-; **elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polyethers, uses
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polybenzoxazole-, cardo; **elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polyacetylenes, preparation
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (polybenzoxazole-, fluorine-containing; **elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polyethers, uses
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polybenzoxazole-, fluorine-containing; **elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Fluoropolymers, uses
 Polyethers, uses
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polybenzoxazole-; **elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Cardo polymers
 Fluoropolymers, uses
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polybenzoxazole-polyether-; **elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polybenzoxazoles
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyether-, cardo; **elec. insulating** polybenzoxazole films having fine pores prepared by heating of copolymers from branched polyamides and reactive oligomers for semiconductor devices)
- IT Polybenzoxazoles
 RL: IMF (Industrial manufacture); TEM (Technical or engineered

- material use); PREP (Preparation); USES (Uses)
 (polyether-, fluorine-containing; **elec.**
insulating polybenzoxazole films having fine pores
 prepared by heating of copolymers from branched polyamides and
 reactive oligomers for semiconductor devices)
- IT Polybenzoxazoles
 RL: IMF (Industrial manufacture); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)
 (polyether-; **elec. insulating**
 polybenzoxazole films having fine pores prepared by heating of
 copolymers from branched polyamides and reactive oligomers for
 semiconductor devices)
- IT Polyamides, preparation
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (polyether-polyoxyalkylene-, cardo; **elec.**
insulating polybenzoxazole films having fine pores
 prepared by heating of copolymers from branched polyamides and
 reactive oligomers for semiconductor devices)
- IT Polyamides, preparation
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (polyether-polyoxyalkylene-, fluorine-containing; **elec.**
insulating polybenzoxazole films having fine pores
 prepared by heating of copolymers from branched polyamides and
 reactive oligomers for semiconductor devices)
- IT Polyamides, preparation
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (polyether-polyoxyalkylene-; **elec. insulating**
 polybenzoxazole films having fine pores prepared by heating of
 copolymers from branched polyamides and reactive oligomers for
 semiconductor devices)
- IT Polyamides, preparation
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (polyoxyalkylene-; **elec. insulating**
 polybenzoxazole films having fine pores prepared by heating of
 copolymers from branched polyamides and reactive oligomers for
 semiconductor devices)
- IT Heat-resistant materials
 (water-resistant, dielec. films; **elec.**
insulating polybenzoxazole films having fine pores
 prepared by heating of copolymers from branched polyamides and
 reactive oligomers for semiconductor devices)
- IT 3034-86-4P, Methyl 4-ethynylbenzoate 16819-43-5P,
 4,4'-Tolandicarboxylic acid 16882-08-9P 23351-91-9P,
 5-Bromoisophthalic acid 51760-21-5P, Dimethyl
 5-bromoisophthalate 168619-21-4P 217655-36-2P,
 1-[3,5-Bis(methoxycarbonyl)phenyl]-2-phenylethyne 393543-03-8P,
 4-[3,5-Bis(methoxycarbonyl)phenyl]-2-methyl-3-butyn-1-ol
 393543-04-9P, 5-Ethynylisophthalic acid dipotassium salt
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (**elec. insulating** polybenzoxazole films
 having fine pores prepared by heating of copolymers from branched
 polyamides and reactive oligomers for semiconductor devices)
- IT 99-31-0, 5-Aminoisophthalic acid 115-19-5, 3-Methyl-1-butyn-3-ol
 122-04-3, 4-Nitrobenzoic acid chloride 358-23-6,
 Trifluoromethanesulfonic acid anhydride 619-42-1, Methyl
 4-bromobenzoate 13036-02-7, Dimethyl 5-hydroxyisophthalate
 62480-31-3

RL: RCT (Reactant); RACT (Reactant or reagent)
 (elec. insulating polybenzoxazole films
 having fine pores prepared by heating of copolymers from branched
 polyamides and reactive oligomers for semiconductor devices)

IT 16819-44-6P, 4,4'-Tolandicarboxylic acid dichloride 393543-05-0P
 393543-14-1P
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (monomer; elec. insulating polybenzoxazole
 films having fine pores prepared by heating of copolymers from
 branched polyamides and reactive oligomers for semiconductor
 devices)

IT 75-21-8DP, Ethylene oxide, reaction products with styrene
 oligomer, aminobenzoate ester, reaction products with polyamides
 150-13-0DP, 4-Aminobenzoic acid, ester with hydroxy-terminated
 styrene oligomer, reaction products with polyamides 9003-53-6DP,
 Polystyrene, aminobenzoate-terminated, reaction products with
 polyamides 519142-88-2DP, reaction products with
 aminobenzoate-terminated styrene oligomer 519142-89-3P
 519142-90-6P 519142-91-7P 519142-93-9P
 519142-94-0P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)
 (thermally decomposed, polybenzoxazole; elec.
 insulating polybenzoxazole films having fine pores
 prepared by heating of copolymers from branched polyamides and
 reactive oligomers for semiconductor devices)

L121 ANSWER 18 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:170378 HCAPLUS
 DOCUMENT NUMBER: 138:222012
 TITLE: Poly-o-hydroxy amides, polybenzoxazoles,
 electronic building component
 as well as procedure for their production
 INVENTOR(S): Walter, Andreas; Sezi, Recai; Lowack, Klaus;
 Maltenberger, Anna
 PATENT ASSIGNEE(S): Infineon Technologies AG, Germany
 SOURCE: Ger., 32 pp.
 CODEN: GWXXAW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10147927	C1	20030306	DE 2001-10147927	2001 0928
US 2003176623	A1	20030918	US 2002-261034	2002 0930
US 6900284	B2	20050531	DE 2001-10147927	2001 0928

PRIORITY APPLN. INFO.: A

DP rej

AB Poly-o-hydroxy amides are manufactured for cyclization to
 polybenzoxazoles that have good elec. insulating
 properties, heat resistance, adhesion, and filling properties for
 gaps with breath <100 nm and aspect ratio >4, and that are useful

in the damascene process. A typical poly-o-hydroxy amide was manufactured by polymerization of 0.52 mol 2,2-bis(3-amino-4-hydroxyphenyl)hexafluoropropane with 0.395 mol 2,2-bis(4-chlorocarbonyl)phenylhexafluoropropane and di-Ph ether 4,4'-dicarbonyl chloride in a NMP-γ-butyrolactone mixture in the presence of C5H5N and 5-(phenylethynyl)isophthaloyl chloride capping agent.

IT 116325-78-1DP, reaction products with norbornenedicarbonyl chloride 500372-81-6DP, reaction products with norbornenedicarbonyl chloride 500372-82-7DP, reaction products with methacryloyl chloride 500372-83-8DP, reaction products with norbornenedicarbonyl chloride 500372-85-0P 500372-86-1DP, reaction products with norbornenedicarbonyl chloride 500372-87-2DP, reaction products with norbornenedicarbonyl chloride 500372-88-3DP, reaction products with norbornenedicarbonyl chloride 500373-31-9DP, reaction products with norbornenedicarbonyl chloride
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(poly-o-hydroxy amides for manufacture of heat-resistant, **elec.-insulating** polybenzoxazoles with good gap-filling properties and damascene processability for building of **electronic components**)

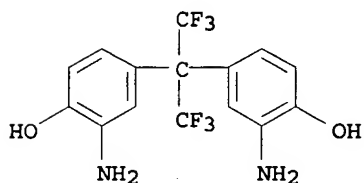
RN 116325-78-1 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[benzoyl chloride] (9CI) (CA INDEX NAME)

CM 1

CRN 83558-87-6

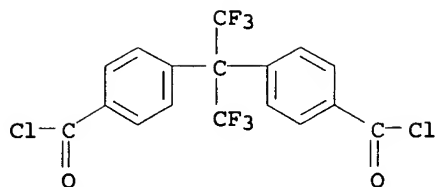
CMF C15 H12 F6 N2 O2



CM 2

CRN 1102-92-7

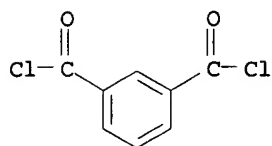
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CM 3

CRN 99-63-8

CMF C8 H4 Cl2 O2



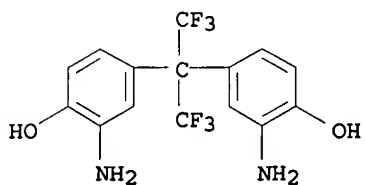
RN 500372-81-6 HCAPLUS

CN Benzoyl chloride, 4,4'-oxybis-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(benzoyl chloride) (9CI) (CA INDEX NAME)

CM 1

CRN 83558-87-6

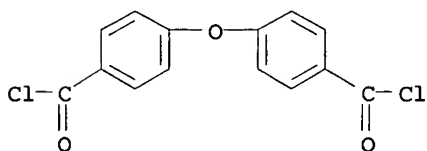
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CM 2

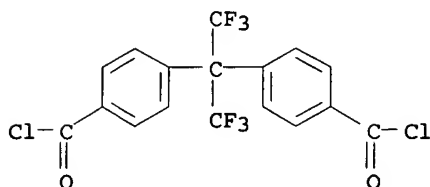
CRN 7158-32-9

CMF C14 H8 Cl2 O3



CM 3

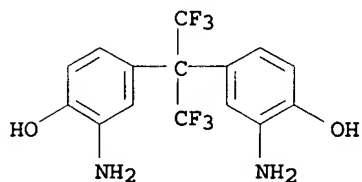
CRN 1102-92-7
 CMF C17 H8 Cl2 F6 O2



RN 500372-82-7 HCAPLUS
 CN Bicyclo[2.2.1]hept-5-ene-2,3-dicarbonyl dichloride, polymer with
 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethyldiene]bis[2-
 aminophenol] and 4,4'-[2,2,2-trifluoro-1-
 (trifluoromethyl)ethyldiene]bis[benzoyl chloride] (9CI) (CA INDEX
 NAME)

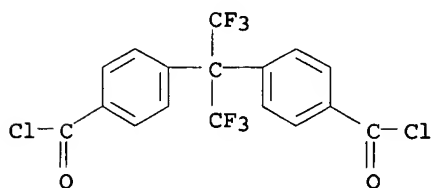
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CRN 83558-87-6
 CMF C15 H12 F6 N2 O2



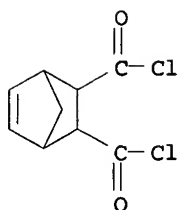
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CRN 1102-92-7
 CMF C17 H8 Cl2 F6 O2



CM 3

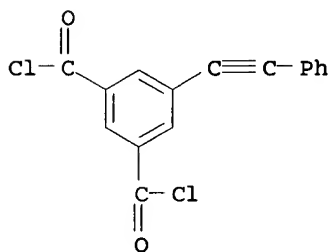
CRN 707-80-2
 CMF C9 H8 Cl2 O2



RN 500372-83-8 HCAPLUS
 CN 1,3-Benzenedicarbonyl dichloride, 5-(phenylethynyl)-, polymer with
 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-
 aminophenol] and 4,4'-[2,2,2-trifluoro-1-
 (trifluoromethyl)ethylidene]bis[benzoyl chloride] (9CI) (CA INDEX
 NAME)

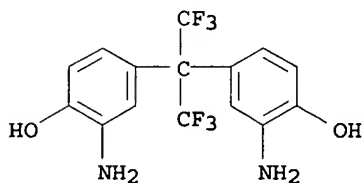
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CRN 393543-14-1
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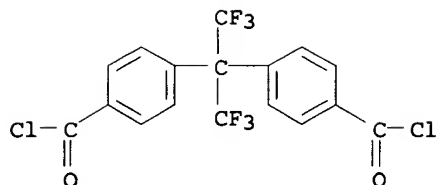
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CRN 83558-87-6
 CMF C15 H12 F6 N2 O2



CM 3

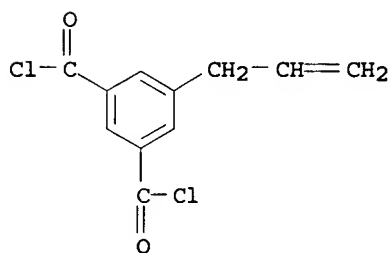
CRN 1102-92-7
 CMF C17 H8 Cl2 F6 O2



RN 500372-85-0 HCAPLUS
 CN 1,3-Benzenedicarbonyl dichloride, 5-(2-propenyl)-, polymer with
 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-
 aminophenol] and 4,4'-[2,2,2-trifluoro-1-
 (trifluoromethyl)ethylidene]bis[benzoyl chloride] (9CI) (CA INDEX
 NAME)

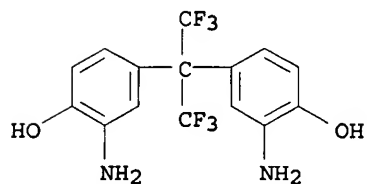
CM 1

CRN 500372-84-9
 CMF C11 H8 Cl2 O2



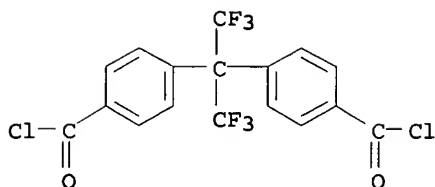
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CRN 83558-87-6
 CMF C15 H12 F6 N2 O2



CM 3

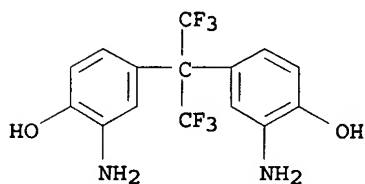
CRN 1102-92-7
 CMF C17 H8 Cl2 F6 O2



RN 500372-86-1 HCAPLUS
 CN 2,6-Naphthalenedicarbonyl dichloride, polymer with
 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-
 aminophenol] and 4,4'-[2,2,2-trifluoro-1-
 (trifluoromethyl)ethylidene]bis[benzoyl chloride] (9CI) (CA INDEX
 NAME)

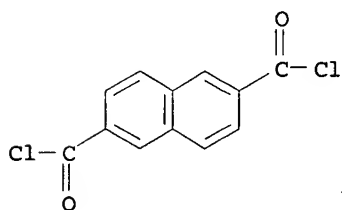
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CRN 83558-87-6
 CMF C15 H12 F6 N2 O2



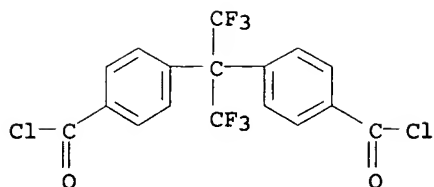
CM 2

CRN 2351-36-2
 CMF C12 H6 Cl2 O2



CM 3

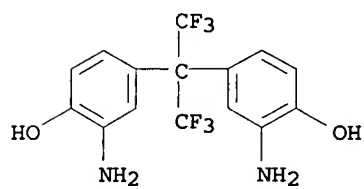
CRN 1102-92-7
 CMF C17 H8 Cl2 F6 O2



RN 500372-87-2 HCAPLUS
 CN [1,1'-Biphenyl]-4,4'-dicarbonyl dichloride, polymer with
 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-
 aminophenol] and 4,4'-[2,2,2-trifluoro-1-
 (trifluoromethyl)ethylidene]bis[benzoyl chloride] (9CI) (CA INDEX
 NAME)

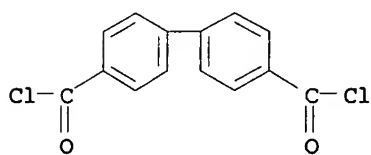
CM 1

CRN 83558-87-6
 CMF C15 H12 F6 N2 O2



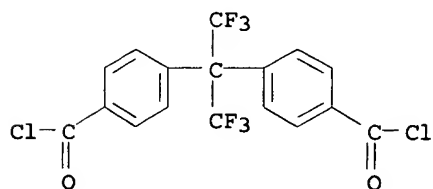
CM 2

CRN 2351-37-3
 CMF C14 H8 Cl2 O2



CM 3

CRN 1102-92-7
 CMF C17 H8 Cl2 F6 O2



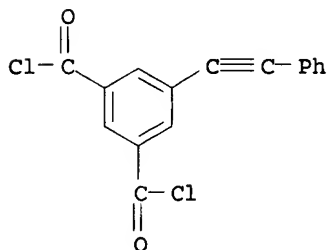
RN 500372-88-3 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, 5-(phenylethynyl)-, polymer with
4,4'-oxybis[benzoyl chloride] and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX
NAME)

CM 1

CRN 393543-14-1

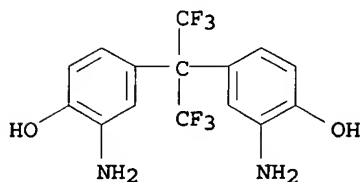
CMF C16 H8 Cl2 O2



CM 2

CRN 83558-87-6

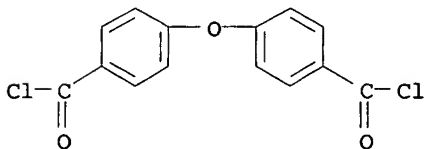
CMF C15 H12 F6 N2 O2



CM 3

CRN 7158-32-9

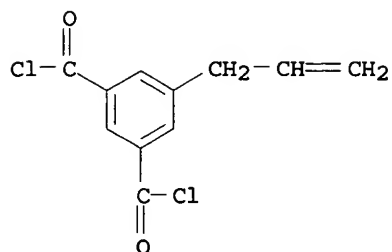
CMF C14 H8 Cl2 O3



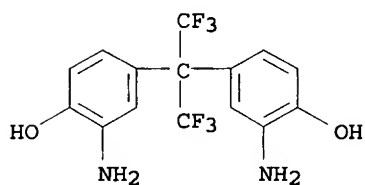
RN 500373-31-9 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, 5-(2-propenyl)-, polymer with
4,4'-oxybis[benzoyl chloride], 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] and
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[benzoyl
chloride] (9CI) (CA INDEX NAME)

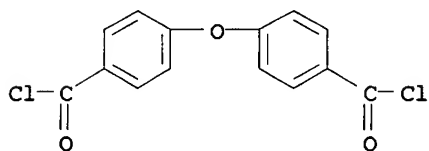
CM 1

CRN 500372-84-9
CMF C11 H8 Cl2 O2

CM 2

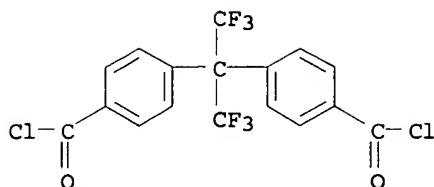
CRN 83558-87-6
CMF C15 H12 F6 N2 O2

CM 3

CRN 7158-32-9
CMF C14 H8 Cl2 O3

CM 4

CRN 1102-92-7
CMF C17 H8 Cl2 F6 O2



- IC ICM C08G073-22
ICS C09D005-25
- CC 35-5 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 76
- ST poly ortho hydroxy amide precursor polybenzoxazole
electronic component manuf; diphenyl ether
dicarbonyl chloride polyamide precursor manuf polybenzoxazole;
bischlorocarbonylphenylhexa fluoropropane polyamide precursor
manuf polybenzoxazole; bisaminohydroxyphenylhexa fluoropropane
polyamide precursor manuf polybenzoxazole
- IT Heat-resistant materials
(dielec.; poly-o-hydroxy amides for manufacture of heat-resistant,
elec.-insulating polybenzoxazoles with good
gap-filling properties and damascene processability for
building of **electronic components**)
- IT Water-resistant materials
(dielecs.; poly-o-hydroxy amides for manufacture of heat-resistant,
elec.-insulating polybenzoxazoles with good
gap-filling properties and damascene processability for
building of **electronic components**)
- IT Polyamides, preparation
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP
(Physical, engineering or chemical process); TEM (Technical or
engineered material use); PREP (Preparation); PROC (Process); USES
(Uses)
(fluorine-containing; poly-o-hydroxy amides for manufacture of
heat-resistant, **elec.-insulating**
polybenzoxazoles with good gap-filling properties and damascene
processability for building of **electronic components**)
- IT Polybenzoxazoles
RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(fluorine-containing; poly-o-hydroxy amides for manufacture of
heat-resistant, **elec.-insulating**
polybenzoxazoles with good gap-filling properties and damascene
processability for building of **electronic components**)
- IT **Electric insulators**
(heat-resistant; poly-o-hydroxy amides for manufacture of
heat-resistant, **elec.-insulating**
polybenzoxazoles with good gap-filling properties and damascene
processability for building of **electronic components**)
- IT **Electric apparatus**
(poly-o-hydroxy amides for manufacture of heat-resistant,
elec.-insulating polybenzoxazoles with good
gap-filling properties and damascene processability for
building of **electronic components**)
- IT Polyethers, preparation
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP
(Physical, engineering or chemical process); TEM (Technical or

- engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
 (polyamide-, fluorine-containing; poly-o-hydroxy amides for manufacture of heat-resistant, **elec.-insulating** polybenzoxazoles with good gap-filling properties and damascene processability for building of **electronic components**)
- IT Fluoropolymers, preparation
 RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
 (polyamide-; poly-o-hydroxy amides for manufacture of heat-resistant, **elec.-insulating** polybenzoxazoles with good gap-filling properties and damascene processability for building of **electronic components**)
- IT Fluoropolymers, preparation
 RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
 (polyamide-polyether-; poly-o-hydroxy amides for manufacture of heat-resistant, **elec.-insulating** polybenzoxazoles with good gap-filling properties and damascene processability for building of **electronic components**)
- IT Polyethers, preparation
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polybenzoxazole-, fluorine-containing; poly-o-hydroxy amides for manufacture of heat-resistant, **elec.-insulating** polybenzoxazoles with good gap-filling properties and damascene processability for building of **electronic components**)
- IT Fluoropolymers, preparation
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polybenzoxazole-; poly-o-hydroxy amides for manufacture of heat-resistant, **elec.-insulating** polybenzoxazoles with good gap-filling properties and damascene processability for building of **electronic components**)
- IT Fluoropolymers, preparation
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polybenzoxazole-polyether-; poly-o-hydroxy amides for manufacture of heat-resistant, **elec.-insulating** polybenzoxazoles with good gap-filling properties and damascene processability for building of **electronic components**)
- IT Polyamides, preparation
 RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
 (polyether-, fluorine-containing; poly-o-hydroxy amides for manufacture of heat-resistant, **elec.-insulating** polybenzoxazoles with good gap-filling properties and damascene processability for building of **electronic components**)
- IT Polybenzoxazoles

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-, fluorine-containing; poly-o-hydroxy amides for manufacture of heat-resistant, **elec.-insulating** polybenzoxazoles with good gap-filling properties and damascene processability for building of **electronic components**)

IT **Electric insulators**

(water-resistant; poly-o-hydroxy amides for manufacture of heat-resistant, **elec.-insulating** polybenzoxazoles with good gap-filling properties and damascene processability for building of **electronic components**)

IT 116325-78-1DP, reaction products with norbornenedicarbonyl chloride 500372-81-6DP, reaction products with norbornenedicarbonyl chloride 500372-82-7DP, reaction products with methacryloyl chloride 500372-83-8DP, reaction products with norbornenedicarbonyl chloride 500372-85-0P 500372-86-1DP, reaction products with norbornenedicarbonyl chloride 500372-87-2DP, reaction products with norbornenedicarbonyl chloride 500372-88-3DP, reaction products with norbornenedicarbonyl chloride 500373-31-9DP, reaction products with norbornenedicarbonyl chloride
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(poly-o-hydroxy amides for manufacture of heat-resistant, **elec.-insulating** polybenzoxazoles with good gap-filling properties and damascene processability for building of **electronic components**)

IT 707-80-2DP, 5-Norbornene-2,3-dicarbonyl chloride, reaction products with fluoropolymer-polybenzoxazoles 920-46-7DP, Methacryloyl chloride, reaction products with fluoropolymer-polybenzoxazoles 27063-48-5DP, 5-Norbornene-2-carbonyl chloride, reaction products with fluoropolymer-polybenzoxazoles
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(poly-o-hydroxy amides for manufacture of heat-resistant, **elec.-insulating** polybenzoxazoles with good gap-filling properties and damascene processability for building of **electronic components**)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L121 ANSWER 19 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:734127 HCAPLUS

DOCUMENT NUMBER: 137:270533

TITLE: Fabrication of multilayer wiring semiconductor devices containing a heat-resistant polybenzoxazole protective film

INVENTOR(S): Kenmochi, Tomoki; Hirano, Takashi

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002278090	A2	20020927	JP 2001-78378	2001 0319
PRIORITY APPLN. INFO.:			JP 2001-78378	2001 0319

OTHER SOURCE(S): MARPAT 137:270533

AB The title semiconductor devices are fabricated by steps of:
forming a heat-resistant photosensitive polybenzoxazole (or polyimide) protective film (A) on a silicon wafer, exposing A under a light source to form pattern, applying a metal layer (B) on A such as by sputtering, coating a pos. photoresist (C), e.g., AZ 1500, on B, patterning C by exposing under a light source, etching B with acid solution, and finally peeling off C using a liquid containing polyoxyalkylenes and alkanolamines, e.g., dipropylene glycol monomethyl ether and isopropanolamine, wherein B is selected from aluminum and copper.

IT 7429-90-5, Aluminum, properties
7440-50-8, Copper, properties
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(metal wiring layer; manufacture of multilayer wiring semiconductor devices containing polybenzoxazole protective film)

RN 7429-90-5 HCAPLUS
CN Aluminum (8CI, 9CI) (CA INDEX NAME)

Al

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

IT 462637-10-1P
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(preparation of polybenzoxazole precursor as protective film in multilayer wiring semiconductor devices)

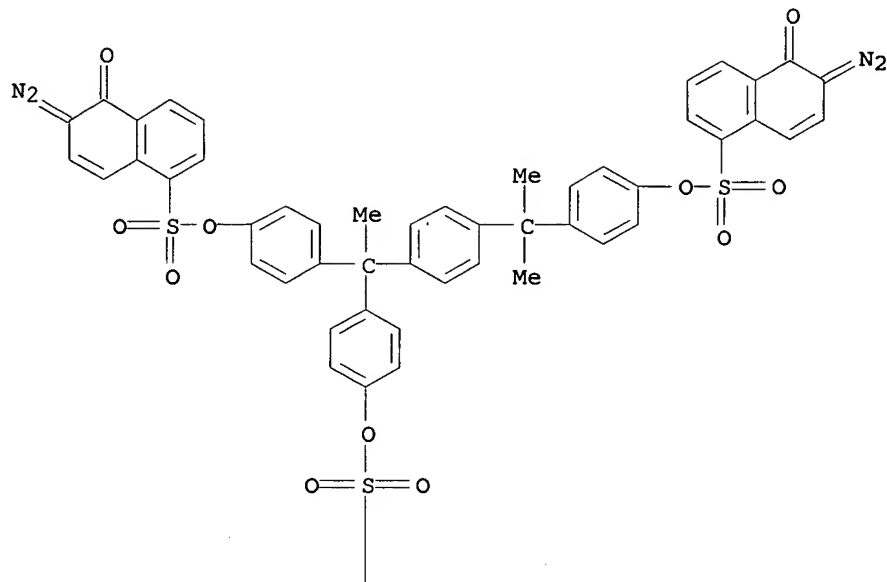
RN 462637-10-1 HCAPLUS
CN 1,3-Benzenedicarboxylic acid, polymer with 1,4-benzenedicarboxylic acid, [1-[4-[1-[4-[[[6-diazo-5,6-dihydro-5-oxo-1-naphthalenyl]sulfonyl]oxy]phenyl]-1-methylethyl]phenyl]ethylidene] di-4,1-phenylene bis(6-diazo-5,6-dihydro-5-oxo-1-naphthalenesulfonate), 3a,4,7,7a-tetrahydro-4,7-methanoisobenzofuran-1,3-dione and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

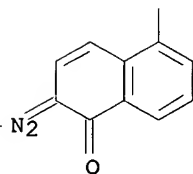
CRN 142541-99-9

CMF C59 H40 N6 O12 S3

PAGE 1-A



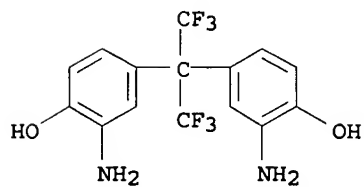
PAGE 2-A



CM 2

CRN 83558-87-6

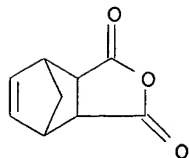
CMF C15 H12 F6 N2 O2



CM 3

CRN 826-62-0

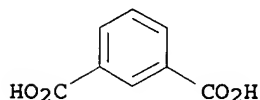
CMF C9 H8 O3



CM 4

CRN 121-91-5

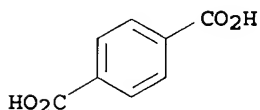
CMF C8 H6 O4



CM 5

CRN 100-21-0

CMF C8 H6 O4



- IC ICM G03F007-42
ICS H01L021-308; H01L021-768; C23F001-00; C23F001-02
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 76
- ST polybenzoxazole photosensitive heat resistant protective film
semiconductor device manuf; **aluminum copper metal** multilayer wiring semiconductor device manuf;
polyoxyalkylene alkanolamine pos photoresist peeling off compn
- IT 7429-90-5, **Aluminum**, properties
7440-50-8, **Copper**, properties
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**metal** wiring layer; manufacture of multilayer wiring semiconductor devices containing polybenzoxazole protective film)
- IT 84329-57-7P, 1,3-Bis(3-aminopropyl)-1,1,3,3-tetramethyldisiloxane-4,4'-diaminodiphenyl ether-pyromellitic dianhydride copolymer
462637-10-1P 462637-11-2P
RL: CPS (Chemical process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
(preparation of polybenzoxazole precursor as protective film in

multilayer wiring semiconductor devices)

L121 ANSWER 20 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2002:686760 HCAPLUS
 DOCUMENT NUMBER: 137:239717
 TITLE: Photosensitive resin composition containing
 alkoxy silane and heat-resistant resin
 INVENTOR(S): Kaneda, Takayuki
 PATENT ASSIGNEE(S): Asahi Kasei Corporation, Japan
 SOURCE: Jpn. Kokai Tokyo Koho, 15 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2002258485	A2	20020911	JP 2001-55294	2001 0228
PRIORITY APPLN. INFO.:				2001 0228

AB The photosensitive resin composition comprises (a) an alkoxy silane compound containing arylamino or pyridyl, (b) a heat-resistant resin or a precursor thereof containing a phenolic OH or carboxy, (c) an optically active component selected from quinonediazide and a photopolymer initiator, and (d) a solvent. The photosensitive resin composition is used as an insulating film for an **electronic parts**, and exhibited excellent adhesion with a wafer after development.

IT 458525-56-9P 458525-57-0P

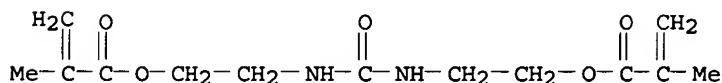
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (photosensitive resin composition containing alkoxy silane and heat-resistant resin)

RN 458525-56-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, carbonylbis(imino-2,1-ethanediyl) ester, polymer with 2-isocyanatoethyl 2-methyl-2-propenoate, 4,4'-oxybis(benzoyl chloride), oxybis(2,1-ethanediyl) bis(2-methyl-2-propenoate), 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] and 3-[3-(trimethoxysilyl)propoxy]benzenamine (9CI) (CA INDEX NAME)

CM 1

CRN 86219-64-9
 CMF C13 H20 N2 O5



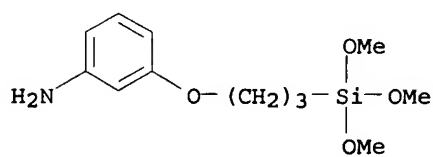
CM 2

CRN 83558-87-6

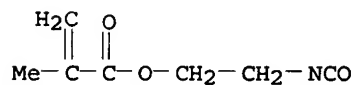
12/23/2005

Cc1ccc(N)cc1C(C)(C)c2cc(N)cc(O)c2

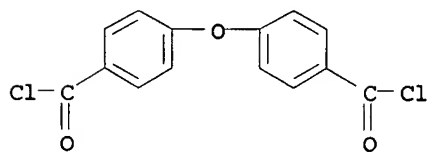
CRN 71550-66-8
CMF C12 H21 N O4 Si



CRN 30674-80-7
CMF C7 H9 N O3

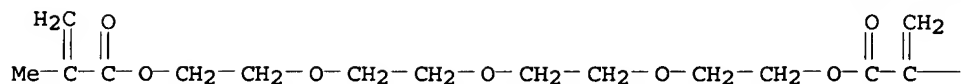


CRN 7158-32-9
CMF C14 H8 Cl2 O3



CRN 109-17-1
CMF C16 H26 O7

PAGE 1-A



PAGE 1-B

— Me

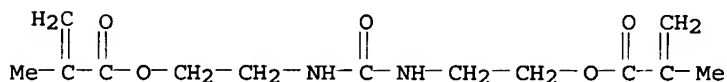
RN 458525-57-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, carbonylbis(imino-2,1-ethanediyl) ester, polymer with 2-isocyanatoethyl 2-methyl-2-propenoate, 4,4'-oxybis(benzoyl chloride), oxybis(2,1-ethanediyl-2,1-ethanediyl) bis(2-methyl-2-propenoate), 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] and 2-[2-(trimethoxysilyl)ethyl]pyridine (9CI) (CA INDEX NAME)

CM 1

CRN 86219-64-9

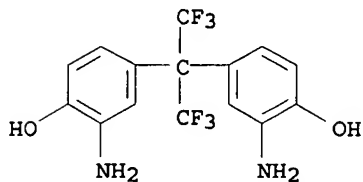
CMF C13 H20 N2 O5



CM 2

CRN 83558-87-6

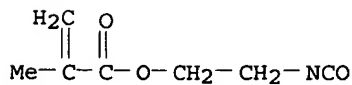
CMF C15 H12 F6 N2 O2



CM 3

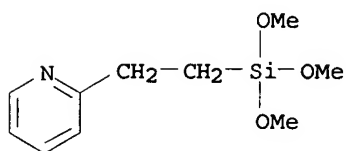
CRN 30674-80-7

CMF C7 H9 N O3



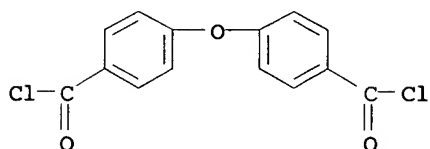
CM 4

CRN 27326-65-4
 CMF C10 H17 N O3 Si



CM 5

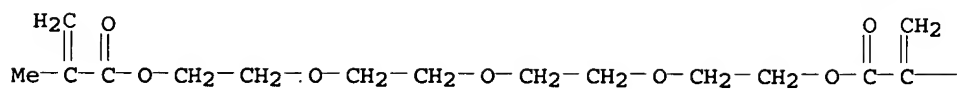
CRN 7158-32-9
 CMF C14 H8 Cl2 O3



CM 6

CRN 109-17-1
 CMF C16 H26 O7

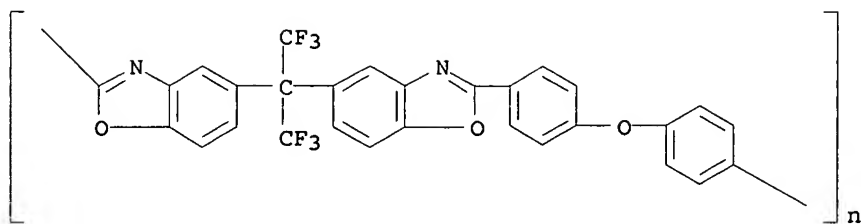
PAGE 1-A



PAGE 1-B

— Me

IT 112480-83-8 133440-72-9
 RL: TEM (Technical or engineered material use); USES (Uses)
 (photosensitive resin composition containing alkoxy silane and
 heat-resistant resin)
 RN 112480-83-8 HCAPLUS
 CN Poly[2,5-benzoxazolediyl [2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl-1,4-phenyleneoxy-1,4-phenylene] (9CI) (CA INDEX NAME)



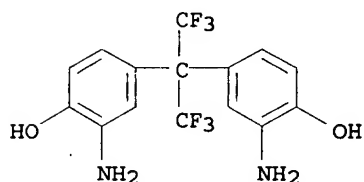
RN 133440-72-9 HCAPLUS

CN Benzoyl chloride, 4,4'-oxybis-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 83558-87-6

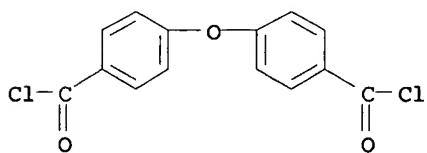
CMF C15 H12 F6 N2 O2



CM 2

CRN 7158-32-9

CMF C14 H8 Cl2 O3



IC ICM G03F007-075

ICS C08K005-28; C08K005-544; C08K005-548; C08L101-06;
G03F007-022; G03F007-028; G03F007-037; G03F007-038;
H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35, 38, 76

ST photosensitive resin compn alkoxysilane heat resistant resin;

electronic parts insulating film

photosensitive resin compn

IT **Electric apparatus**

(photosensitive resin composition as **insulating film** of **electronic devices**)

IT **Electric insulators**

(photosensitive resin composition containing alkoxysilane and

heat-resistant resin)
IT 458525-56-9P 458525-57-0P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photosensitive resin composition containing alkoxysilane and heat-resistant resin)
IT 71550-66-8 112480-83-8 133440-72-9
135668-77-8
RL: TEM (Technical or engineered material use); USES (Uses)
(photosensitive resin composition containing alkoxysilane and heat-resistant resin)

L121 ANSWER 21 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:672468 HCAPLUS
DOCUMENT NUMBER: 137:224105
TITLE: Radiation-sensitive resin compositions and their use in pattern formation for insulator films in electrotonic parts
INVENTOR(S): Sakamoto, Kei; Kawahara, Kohei
PATENT ASSIGNEE(S): Nippon Zeon Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002249646	A2	20020906	JP 2001-51927	2001 0227
PRIORITY APPLN. INFO.:				JP 2001-51927 2001 0227

AB The compns. comprise (A) alkali-soluble resins containing 95:5-10:90 weight ratio of (1) alkali-soluble cyclic olefin polymers having $T_g = T$ and (2) alkali-soluble precursors giving alkali-soluble resins having $T_g \geq T + 10^\circ$ and/or alkali-soluble resins having $T_g \geq T + 10^\circ$, (B) CH₂OR₁ group-contg crosslinking agents (R₁ = H, alkyl), and (C) radiation-sensitive acid generators. The compns. are applied on substrates, patterned with radiation, developed with alkaline solns., and heated for pattern formation. The compns. give heat-resistant pattern with high flatness, transparency, resistance to discoloration and solvent, and developability.

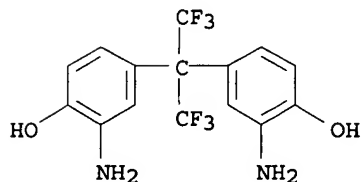
IT 178991-25-8P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(radiation-sensitive resin compns. and their use in pattern formation for heat-resistant insulator films)

RN 178991-25-8 HCAPLUS

CN Benzoyl chloride, 4,4'-oxybis-, polymer with 3,3'-(1,1,3,3-tetramethyl-1,3-disiloxanediyl)bis[1-propanamine] and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

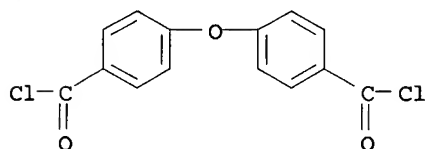
CM 1

CRN 83558-87-6
CMF C15 H12 F6 N2 O2



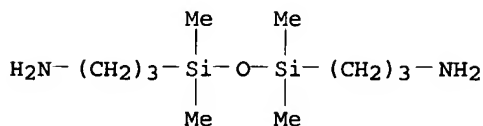
CM 2

CRN 7158-32-9
CMF C14 H8 Cl2 O3



CM 3

CRN 2469-55-8
CMF C10 H28 N2 O Si2



IC ICM C08L065-00
ICS C08K005-00; C08K005-21; C08K005-3492; C08L025-00; C08L079-04;
C08L079-08; C08L081-00; G03F007-004; G03F007-038; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 38, 76
IT 108-31-6DP, Maleic anhydride, reaction products with hydrogenated
polyalkenemers 87078-79-3P 131193-23-2DP, 1-Hexene-8-methyl-8-
methoxycarbonyltetracyclo[4.4.0.12,5.17,10]-3-dodecene copolymer,
hydrogenated, hydrolyzed 134490-17-8DP, 8-
Ethyltetracyclo[4.4.0.12,5.17,10]-3-dodecene homopolymer,
hydrogenated, maleated 178991-25-8P 247579-45-9DP,
hydrogenated, maleated
RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(radiation-sensitive resin compns. and their use in pattern
formation for heat-resistant insulator films)

L121 ANSWER 22 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:656277 HCAPLUS

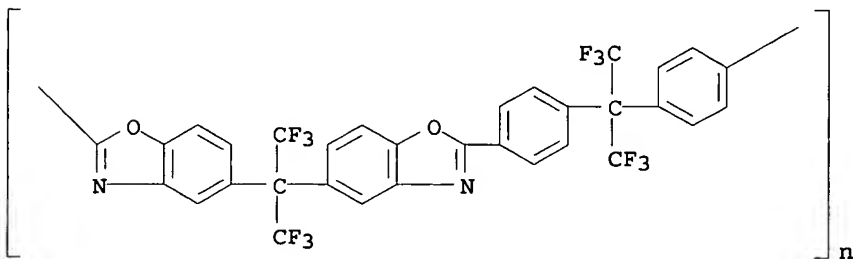
DOCUMENT NUMBER: 137:186730
 TITLE: Heat-resistant resin compositions for
 electric insulators for
 semiconductor devices
 INVENTOR(S): Otsuki, Tomohito
 PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002245855	A2	20020830	JP 2001-42481	2001 0219
PRIORITY APPLN. INFO.: JP 2001-42481				2001 0219

AB The compns. contain porous components having sp. surface area 1000-2000 m²/g and heat-resistant resins or their precursors. Thus, a composition containing 10.0 g 2,2-bis(3-amino-4-hydroxyphenyl)hexafluoropropane-4,4'-hexafluoroisopropylidenediphenyl-1,1'-dicarbonyl dichloride copolymer (polybenzoxazole) and 0.8 g activated carbon (BET sp. surface area 2000 m²/g) was spin-coated on a silicone wafer to give a porous film having dielec. constant 2.1 and d. 1.11.

IT 112480-81-6P 112513-26-5P, 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane-hexafluoroisopropylidene-4,4'-diphenyl-1,1'-dicarboxylic acid chloride copolymer 262352-93-2P, 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane-2,2'-bis(trifluoromethyl)biphenyl-4,4'-dicarboxylic acid chloride copolymer 262352-95-4P
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (heat-resistant resin compns. for elec.
 insulators for semiconductor devices)

RN 112480-81-6 HCAPLUS
 CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl-1,4-phenylene[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-1,4-phenylene] (9CI) (CA INDEX NAME)

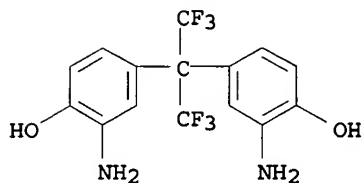


RN 112513-26-5 HCAPLUS
 CN Benzoyl chloride, 4,4'-[2,2,2-trifluoro-1-

(trifluoromethyl)ethylidene]bis-, polymer with
 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-
 aminophenol] (9CI) (CA INDEX NAME)

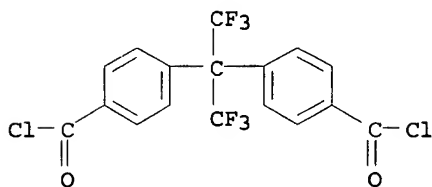
CM 1

CRN 83558-87-6
 CMF C15 H12 F6 N2 O2



CM 2

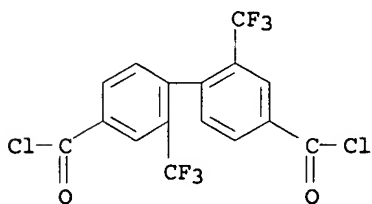
CRN 1102-92-7
 CMF C17 H8 Cl2 F6 O2



RN 262352-93-2 HCAPLUS
 CN [1,1'-Biphenyl]-4,4'-dicarbonyl dichloride, 2,2'-
 bis(trifluoromethyl)-, polymer with 4,4'-[2,2,2-trifluoro-1-
 (trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX
 NAME)

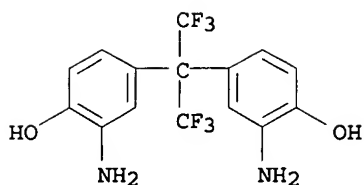
CM 1

CRN 86536-25-6
 CMF C16 H6 Cl2 F6 O2

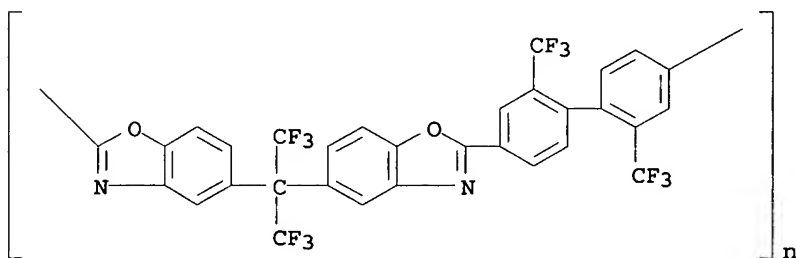


CM 2

CRN 83558-87-6
 CMF C15 H12 F6 N2 O2



RN 262352-95-4 HCAPLUS
 CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl[2,2'-bis(trifluoromethyl)[1,1'-biphenyl]-4,4'-diyl]] (9CI) (CA INDEX NAME)



IC ICM H01B003-30
 ICS H01B003-30; C08K003-04; C08L079-04; C08L079-08; H01L021-312; H01L021-768; H01L023-14
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 76
 ST heat resistant polybenzoxazole **elec insulator**
 semiconductor **device**; activated carbon polybenzoxazole
 porous dielec film
 IT Heat-resistant materials
 (dielec.; heat-resistant resin compns. for **elec.**
insulators for semiconductor devices)
 IT Porous materials
 (films; heat-resistant resin compns. for **elec.**
insulators for semiconductor devices)
 IT Polyamides, uses
 Polybenzoxazoles
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical
 or engineered material use); PREP (Preparation); USES (Uses)
 (fluorine-containing; heat-resistant resin compns. for **elec**
insulators for semiconductor devices)
 IT Semiconductor devices
 (heat-resistant resin compns. for **elec.**
insulators for semiconductor devices)
 IT **Electric insulators**
 (heat-resistant; heat-resistant resin compns. for **elec**
insulators for semiconductor devices)
 IT Fluoropolymers, uses
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical
 or engineered material use); PREP (Preparation); USES (Uses)
 (polyamide-; heat-resistant resin compns. for **elec.**
insulators for semiconductor devices)
 IT Fluoropolymers, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polybenzoxazole-; heat-resistant resin compns. for elec. **insulators** for semiconductor devices)

IT Polyimides, uses
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyether-; heat-resistant resin compns. for elec. **insulators** for semiconductor devices)

IT Polyethers, uses
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyimide-; heat-resistant resin compns. for elec. **insulators** for semiconductor devices)

IT Films
 (porous; heat-resistant resin compns. for elec. **insulators** for semiconductor devices)

IT 7440-44-0, Carbon, uses
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (activated; heat-resistant resin compns. for elec. **insulators** for semiconductor devices)

IT 112480-81-6P 112513-26-5P, 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane-hexafluoroisopropylidene-4,4'-diphenyl-1,1'-dicarboxylic acid chloride copolymer
 262352-93-2P, 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane-2,2'-bis(trifluoromethyl)biphenyl-4,4'-dicarboxylic acid chloride copolymer 262352-94-3P
 262352-95-4P 319913-58-1P, Biphenyltetracarboxylic acid dianhydride-2,2-bis[4-(4'-aminophenoxy)phenyl]hexafluoropropane-2,2'-bis(trifluoromethyl)-4,4'-diaminobiphenyl-hexafluoroisopropylidene-2,2'-bis(phthalic acid anhydride) copolymer 319913-59-2P
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (heat-resistant resin compns. for elec. **insulators** for semiconductor devices)

L121 ANSWER 23 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:447168 HCAPLUS
 DOCUMENT NUMBER: 137:39317
 TITLE: Photosensitive polymerizable compositions containing polyimide precursors, pattern formation using the compositions, and electronic devices having the pattern

INVENTOR(S): Nunomura, Masataka; Oe, Tadayuki; Anzai, Takanori; Fujieda, Nagatoshi
 PATENT ASSIGNEE(S): Hitachi Chemical Du Pont Micro System Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002169286	A2	20020614	JP 2000-364140	2000

PRIORITY APPLN. INFO.:

JP 2000-364140

1130

2000

1130

AB The compns., which serve as alkali-developable neg. resists and provide surface protective films and interlayer insulating films for **electronic devices**, contain (a) polyimide precursors having a repeating unit [COR1(CO2R3)2CONHR2NH] (R1 = divalent organic group; R2 = divalent group having phenolic OH; R3 = H, aliphatic group), (b) photoacid generators, and (c) compds. which crosslink (a) in the presence of acids.

IT 436859-83-5P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(neg. resists containing polyamic acids, photoacid generators, and crosslinking agents for semiconductor devices)

RN 436859-83-5 HCAPLUS

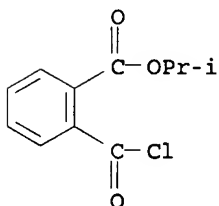
CN Benzoic acid, oxybis[2-(chlorocarbonyl)-, bis(1-methylethyl) ester, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 293742-31-1

CMF C22 H20 Cl2 O7

CCI IDS

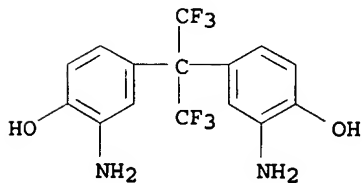


1/2 (D1-O-D1)

CM 2

CRN 83558-87-6

CMF C15 H12 F6 N2 O2



IC ICM G03F007-038

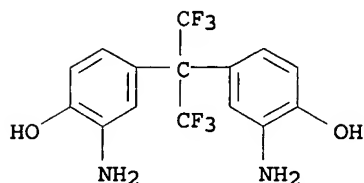
ICS C08K005-00; C08L079-08; G03F007-004; H01L021-312
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 76
IT 350689-69-9P 436859-83-5P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(neg. resists containing polyamic acids, photoacid generators, and
crosslinking agents for semiconductor devices)

L121 ANSWER 24 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:447165 HCAPLUS
DOCUMENT NUMBER: 137:26112
TITLE: Photosensitive polymerizable compositions
containing poly(hydroxyamides), pattern
formation using the compositions, and
electronic devices having
the pattern
INVENTOR(S): Oe, Tadayuki; Nunomura, Masataka; Anzai,
Takanori; Fujieda, Nagatoshi
PATENT ASSIGNEE(S): Hitachi Chemical Du Pont Micro System Co.,
Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

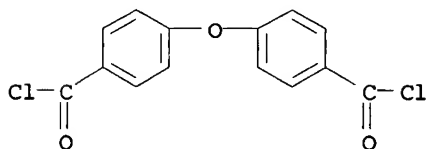
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002169283	A2	20020614	JP 2000-364142	2000 1130
PRIORITY APPLN. INFO.:				2000 1130

OTHER SOURCE(S): MARPAT 137:26112
AB The compns., useful for formation of a surface protective film or
an interlayer **insulating** film for **electronic**
devices, contain (a) alkaline solution-soluble polyamides having a
repeating unit [NHU(OH)2NHC(O)VCO] (U = tetravalent group; V =
divalent group), (b) photoacid generators, (c) compds. having
≥2 acyloxymethyl group and phenolic OH group, and
optionally (d) compds. which inhibit dissoln. of (a) in alkaline solution
The compns. work as pos. resists, show high sensitivity, and give
good profile pattern by exposure with i-line, developing, and
heating.
IT 133440-72-9P, 2,2-Bis(3-amino-4-
hydroxyphenyl)hexafluoropropane-4,4'-dicarboxydiphenyl ether
dichloride copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(pos.-working resists containing poly(hydroxyamides), photoacid
generators, and (acyloxymethyl)phenols)
RN 133440-72-9 HCAPLUS
CN Benzoyl chloride, 4,4'-oxybis-, polymer with 4,4'-[2,2,2-trifluoro-
1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX
NAME)

CM 1

CRN 83558-87-6
CMF C15 H12 F6 N2 O2

CM 2

CRN 7158-32-9
CMF C14 H8 Cl2 O3

IC ICM G03F007-037
ICS C08K005-00; C08K005-03; C08K005-134; C08L077-06; G03F007-004;
H01L021-027; H01L021-312

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 76

IT 112480-82-7P, 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane-
4,4'-dicarboxydiphenyl ether dichloride copolymer, polyamide sru
133440-72-9P, 2,2-Bis(3-amino-4-
hydroxyphenyl)hexafluoropropane-4,4'-dicarboxydiphenyl ether
dichloride copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(pos.-working resists containing poly(hydroxyamides), photoacid
generators, and (acyloxymethyl)phenols)

L121 ANSWER 25 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:368077 HCAPLUS

DOCUMENT NUMBER: 136:370772

TITLE: Polyamide compositions and
electrically insulating
microporous film obtained from the
compositions for **electronic**
devices

INVENTOR(S): Oki, Hiromi; Enoki, Naoshi; Hase, Yoko

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

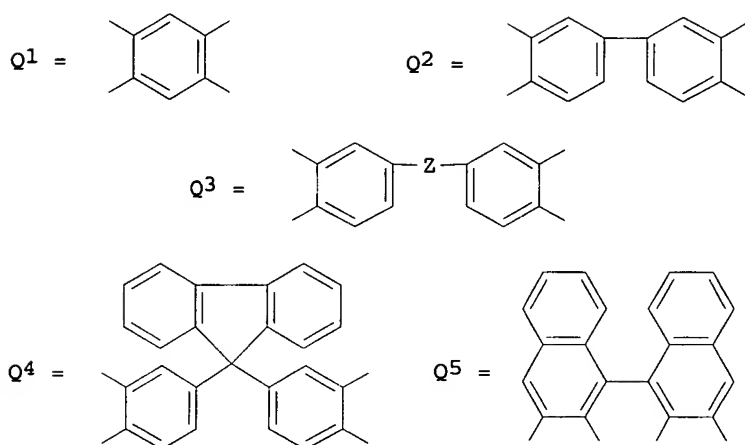
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 2002141344	A2	20020517	JP 2000-331231	2000 1030
PRIORITY APPLN. INFO.:			JP 2000-331231	2000 1030

GI



AB The compns. contain (A) polyamides obtained by reaction of H₂NX(OH)₂NH₂ [X = Q¹-Q⁵; Z = O, SO₂, CMe₂, C(CF₃)₂, divalent aromatic substituents], compds. having d-valent amino-reactive organic groups (d = 3-10), HO₂CYCO₂H (Y = 1,3-phenylene, 1,4-phenylene, biphenylene, C₆H₄ZC₆H₄, naphthylene), and HO₂CC₆H₄C.tplbond.CC₆H₄CO₂H, and (B) oligomers. The **elec** . **insulating** films have a microporous polymer layer with benzoxazole structure obtained by condensation and crosslinking of the above composition under heat. Thus, a varnish containing 100 parts polyamide [prepared from 2,2-bis(3-amino-4-hydroxyphenyl)hexafluoropropane, trimesic acid trichloride, isophthaloyl dichloride, and 4,4'-tolandicarboxylic acid dichloride] and 5 parts poly(Me methacrylate) in 195 parts NMP was applied on a glass sheet and heated at 70-420° for 4.5 h to give a 10-μm microporous film with pore size ≤5 nm, dielec. constant 2.3, T_g 310°, and moisture absorption 0.3%.

IT 393543-19-6P 423754-46-5P 423754-47-6P
423754-48-7P

RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)

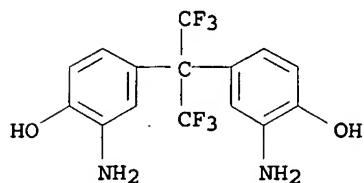
(polyamide compns. for **elec. insulating**
microporous films with good heat and water resistance for
electronic devices)

RN 393543-19-6 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, polymer with
4,4'-(1,2-ethynediyl)bis[benzoyl chloride] and
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-
aminophenol] (9CI) (CA INDEX NAME)

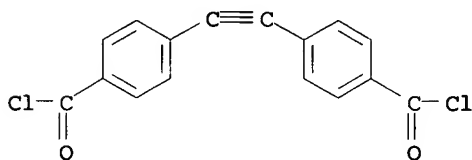
CM 1

CRN 83558-87-6
CMF C15 H12 F6 N2 O2



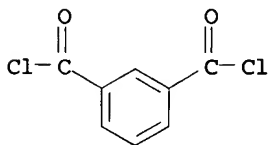
CM 2

CRN 16819-44-6
CMF C16 H8 Cl2 O2



CM 3

CRN 99-63-8
CMF C8 H4 Cl2 O2

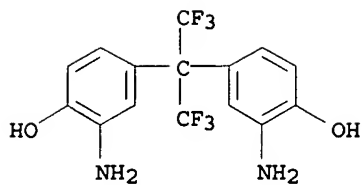


RN 423754-46-5 HCAPLUS

CN 1,3,5-Benzenetricarbonyl trichloride, polymer with
1,3-benzenedicarbonyl dichloride, 4,4'-(1,2-ethynediyl)bis[benzoyl
chloride] and 4,4'-[2,2,2-trifluoro-1-
(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX
NAME)

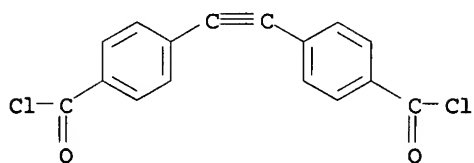
CM 1

CRN 83558-87-6
CMF C15 H12 F6 N2 O2



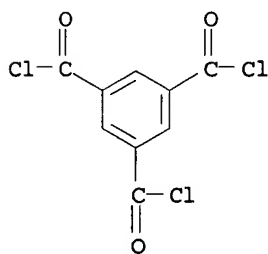
CM 2

CRN 16819-44-6
CMF C16 H8 Cl2 O2



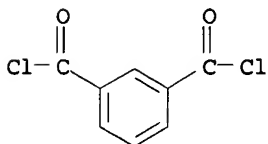
CM 3

CRN 4422-95-1
CMF C9 H3 Cl3 O3



CM 4

CRN 99-63-8
CMF C8 H4 Cl2 O2

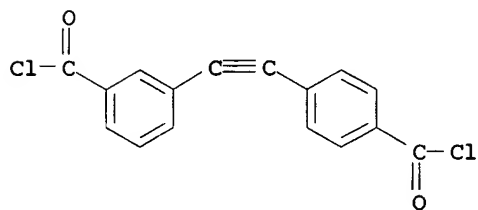


RN 423754-47-6 HCAPLUS
CN 1,3,5-Benzenetricarbonyl trichloride, polymer with
1,3-benzenedicarbonyl dichloride, 3-[4-

(chlorocarbonyl)phenyl]ethynyl]benzoyl chloride and
3,3'-[9H-fluoren-9-ylidenebis(4,1-phenyleneoxy)]bis[6-aminophenol]
(9CI) (CA INDEX NAME)

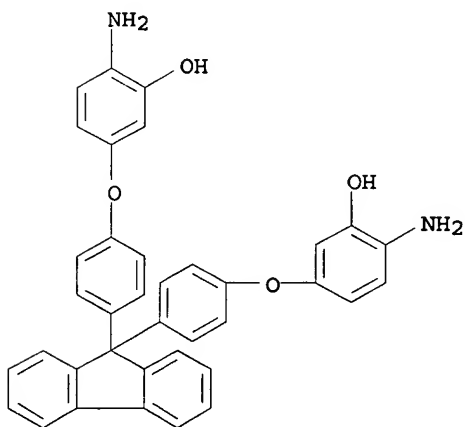
CM 1

CRN 393543-17-4
CMF C16 H8 Cl2 O2



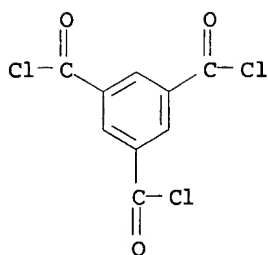
CM 2

CRN 359642-31-2
CMF C37 H28 N2 O4



CM 3

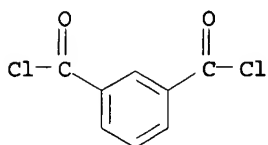
CRN 4422-95-1
CMF C9 H3 Cl3 O3



CM 4

CRN 99-63-8

CMF C8 H4 Cl2 O2



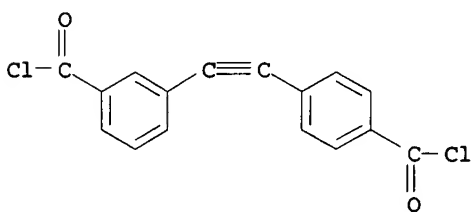
RN 423754-48-7 HCAPLUS

CN 1,3,5-Benzenetricarbonyl trichloride, polymer with
 3-[[4-(chlorocarbonyl)phenyl]ethynyl]benzoyl chloride and
 3,3'-[9H-fluoren-9-ylidenebis(4,1-phenyleneoxy)]bis[6-aminophenol]
 (9CI) (CA INDEX NAME)

CM 1

CRN 393543-17-4

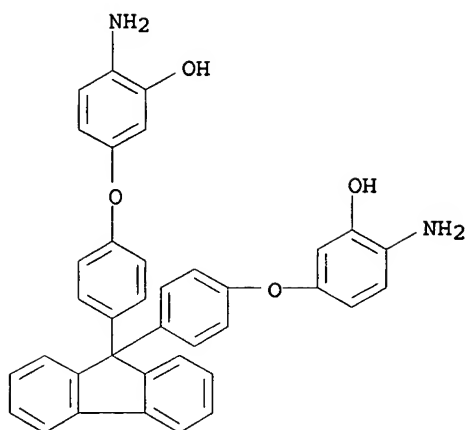
CMF C16 H8 Cl2 O2



CM 2

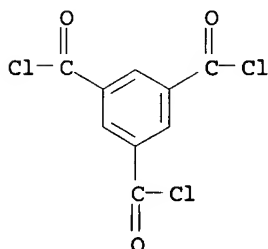
CRN 359642-31-2

CMF C37 H28 N2 O4



CM 3

CRN 4422-95-1
CMF C9 H3 Cl3 O3



- IC ICM H01L021-312
ICS C08G073-10; C08L079-08; H01B003-30; H01L021-768
- CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 37, 76
- ST polyamide polybenzoxazole **elec insulator** film
porous; aminohydroxyphenyl fluoropropane isophthalate
tolandicarboxylate trimesate polymer insulator film; heat water
resistance dielec film polyamide polybenzoxazole
- IT Water-resistant materials
(heat-resistant; polyamide compns. for **elec.**
insulating microporous films with good heat and water
resistance for **electronic devices**)
- IT **Electric insulators**
(polyamide compns. for **elec. insulating**
microporous films with good heat and water resistance for
electronic devices)
- IT Polyoxyalkylenes, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered
material use); USES (Uses)
(polyamide compns. for **elec. insulating**
microporous films with good heat and water resistance for
electronic devices)
- IT Polybenzoxazoles

RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)

(polyamide-; polyamide compns. for **elec.**
insulating microporous films with good heat and water
resistance for **electronic devices**)

IT Polyamides, uses

RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)

(polybenzoxazole-; polyamide compns. for **elec.**
insulating microporous films with good heat and water
resistance for **electronic devices**)

IT Heat-resistant materials

(water-resistant; polyamide compns. for **elec.**
insulating microporous films with good heat and water
resistance for **electronic devices**)

IT 393543-19-6P 423754-46-5P 423754-47-6P
423754-48-7P

RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)

(polyamide compns. for **elec. insulating**
microporous films with good heat and water resistance for
electronic devices)

IT 9003-11-6, Ethylene oxide-propylene oxide copolymer 9003-53-6,
Polystyrene 9011-14-7, Poly(methyl methacrylate) 25322-69-4,
Polypropylene oxide

RL: MOA (Modifier or additive use); TEM (Technical or engineered
material use); USES (Uses)

(polyamide compns. for **elec. insulating**
microporous films with good heat and water resistance for
electronic devices)

L121 ANSWER 26 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:27634 HCAPLUS

DOCUMENT NUMBER: 136:71049

TITLE: Heat-resistant resin compositions for
electric insulators

INVENTOR(S): Ishikawa, Tadahiro; Enoki, Naoshi; Higashida,
Yukihiro; Fujimoto, Masanori

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002008446	A2	20020111	JP 2000-188372	2000 0622

PRIORITY APPLN. INFO.: JP 2000-188372

2000
0622

AB The title compns., useful for **elec.** and
electronic devices, printed circuit boards, etc.
(no data), comprise (a) organic compds. (e.g., 2-aminoterephthalic

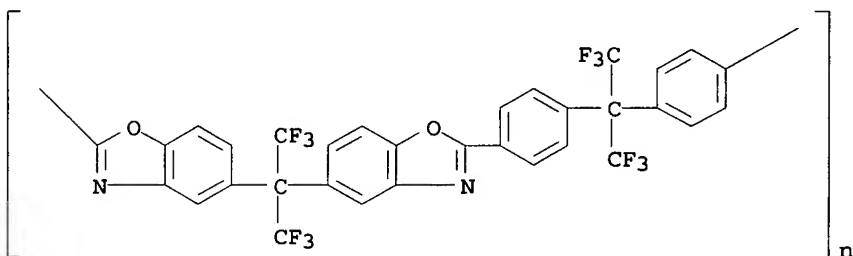
acid, m.p. 324°) and (b) heat-resistant resins or precursors [e.g., biphenyltetracarboxylic dianhydride-2,2-bis[4-(4-aminophenoxy)phenyl]hexafluoropropane-2,2'-bis(trifluoromethyl)-4,4'-diaminobiphenyl-hexafluoroisopropylidene-2,2'-bis(phthalic anhydride) copolymer], providing the resins or precursors have glass transition temperature higher than the decomposition temperature or sublimation temperature of the organic compds.

IT 112480-81-6 112513-26-5 262352-93-2
262352-95-4

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(heat-resistant resin compns. for elec. insulators)

RN 112480-81-6 HCAPLUS

CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl-1,4-phenylene[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-1,4-phenylene] (9CI) (CA INDEX NAME)



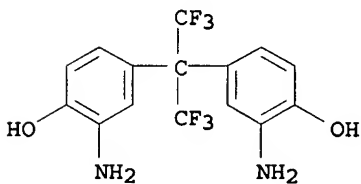
RN 112513-26-5 HCAPLUS

CN Benzoyl chloride, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 83558-87-6

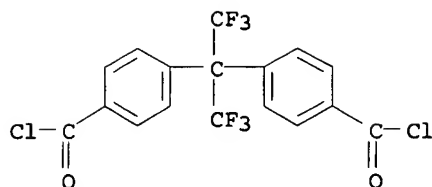
CMF C15 H12 F6 N2 O2



CM 2

CRN 1102-92-7

CMF C17 H8 Cl2 F6 O2



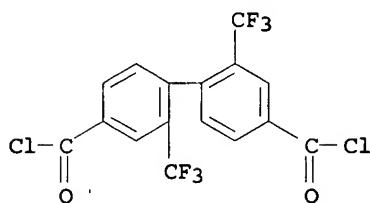
RN 262352-93-2 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-dicarbonyl dichloride, 2,2'-bis(trifluoromethyl)-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 86536-25-6

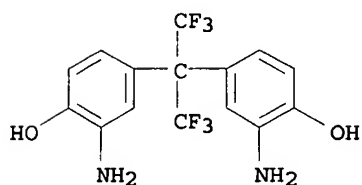
CMF C16 H6 Cl2 F6 O2



CM 2

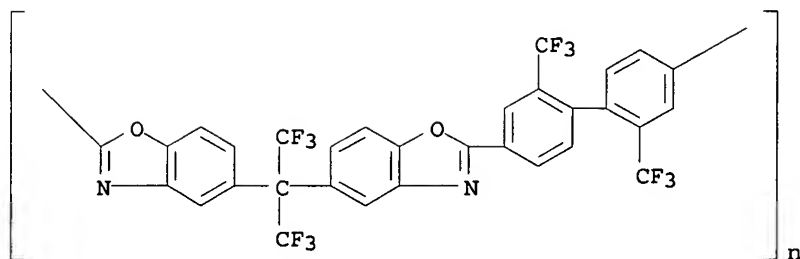
CRN 83558-87-6

CMF C15 H12 F6 N2 O2



RN 262352-95-4 HCAPLUS

CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl[2,2'-bis(trifluoromethyl)[1,1'-biphenyl]-4,4'-diyl]] (9CI) (CA INDEX NAME)



- IC ICM H01B003-30
ICS H01B003-30; C08J009-04; H01L021-312; C08L079-04
- CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 76
- ST polyimide aminoterephthalic acid **elec insulator**
; heat resistant polyimide org compd **elec insulator**
- IT Polyamides, uses
Polybenzoxazoles
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(fluorine-containing; heat-resistant resin compns. for **elec insulators**)
- IT **Electric insulators**
(heat-resistant resin compns. for **elec. insulators**)
- IT Polyamic acids
Polybenzoxazoles
Polyimides, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(heat-resistant resin compns. for **elec. insulators**)
- IT Polyimides, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyamide-, hydroxy-terminated; heat-resistant resin compns. for **elec. insulators**)
- IT Fluoropolymers, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyamide-, heat-resistant resin compns. for **elec. insulators**)
- IT Fluoropolymers, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polybenzoxazole-, heat-resistant resin compns. for **elec. insulators**)
- IT Polyamides, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyimide-, hydroxy-terminated; heat-resistant resin compns. for **elec. insulators**)
- IT 55-22-1, Isonicotinic acid, uses 2835-06-5, 2-Phenylglycine
10312-55-7, 2-Aminoterephthalic acid
RL: MOA (Modifier or additive use); USES (Uses)
(heat-resistant resin compns. for **elec. insulators**)
- IT 9043-05-4, 4,4'-Diaminodiphenyl ether-pyromellitic dianhydride

copolymer, sru 25036-53-7, 4,4'-Diaminodiphenyl
ether-pyromellitic dianhydride copolymer, sru 25038-81-7,
4,4'-Diaminodiphenyl ether-pyromellitic dianhydride copolymer
112480-81-6 112513-26-5 113716-09-9
262352-93-2 262352-94-3 262352-95-4
319913-58-1

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical
or engineered material use); USES (Uses)
(heat-resistant resin compns. for elec.
insulators)

L121 ANSWER 27 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:855801 HCAPLUS

DOCUMENT NUMBER: 136:14373

TITLE: Low-dielectric-constant microporous polymers
and electronic devices

INVENTOR(S): with interlayer insulators therefrom
Fujiwara, Takenori; Mori, Yoichi; Shinba,
Yoichi

PATENT ASSIGNEE(S): Toray Industries, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

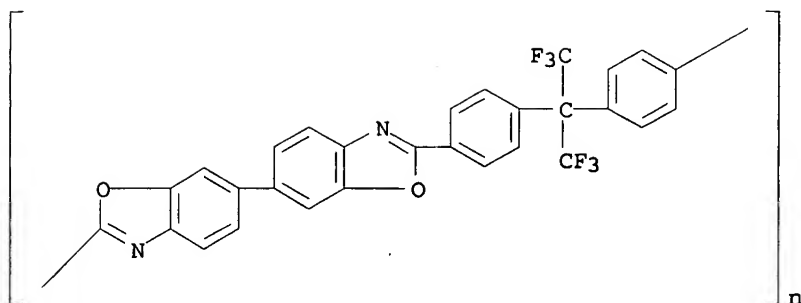
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001329096	A2	20011127	JP 2001-18243	2001 0126
PRIORITY APPLN. INFO.:			JP 2000-75395	A 2000 0317

AB The polymers with average pore diameter ≤ 100 nm and porosity 1-50
volume% are prepared by heat treatment of reaction products of matrix
polymers (A) and pyrolytic compds. (B) at a temperature higher than the
pyrolysis temperature of B and lower than the heat decomposition temperature of A.
The polymers exhibit excellent heat resistance and are easy to
prepare

IT 146191-98-2P, 2,2-Bis(4-carboxyphenyl)-1,1,1,3,3,3-
hexafluoropropane-3,3'-dihydroxybenzidine copolymer, sru
RL: DEV (Device component use); PNU (Preparation, unclassified);
PRP (Properties); PREP (Preparation); USES (Uses)
(microporous; microporous polymers with low dielec. constant and
electronic devices therewith)

RN 146191-98-2 HCAPLUS

CN Poly[[6,6'-bibenzoxazole]-2,2'-diyl-1,4-phenylene[2,2,2-trifluoro-
1-(trifluoromethyl)ethylidene]-1,4-phenylene] (9CI) (CA INDEX
NAME)



- IC ICM C08J009-06
ICS H01L021-312; H01L021-768; C08L087-00
- CC 76-14 (Electric Phenomena)
Section cross-reference(s): 38
- IT Polybenzoxazoles
RL: DEV (Device component use); PNU (Preparation, unclassified);
PRP (Properties); PREP (Preparation); USES (Uses)
(fluorine-containing, microporous; microporous polymers with low dielec. constant and **electronic devices** therewith)
- IT **Electric apparatus**
Electric insulators
Thermal decomposition
(microporous polymers with low dielec. constant and **electronic devices** therewith)
- IT Porous materials
(microporous, polymeric; microporous polymers with low dielec. constant and **electronic devices** therewith)
- IT Polyimides, properties
RL: DEV (Device component use); PNU (Preparation, unclassified);
PRP (Properties); PREP (Preparation); USES (Uses)
(microporous; microporous polymers with low dielec. constant and **electronic devices** therewith)
- IT Fluoropolymers, properties
RL: DEV (Device component use); PNU (Preparation, unclassified);
PRP (Properties); PREP (Preparation); USES (Uses)
(polybenzoxazole-, microporous; microporous polymers with low dielec. constant and **electronic devices** therewith)
- IT Polyimides, properties
RL: DEV (Device component use); PNU (Preparation, unclassified);
PRP (Properties); PREP (Preparation); USES (Uses)
(polyether-, fluorine-containing, microporous; microporous polymers with low dielec. constant and **electronic devices** therewith)
- IT Fluoropolymers, properties
RL: DEV (Device component use); PNU (Preparation, unclassified);
PRP (Properties); PREP (Preparation); USES (Uses)
(polyether-polyimide-, microporous; microporous polymers with low dielec. constant and **electronic devices** therewith)
- IT Polyethers, properties
RL: DEV (Device component use); PNU (Preparation, unclassified);
PRP (Properties); PREP (Preparation); USES (Uses)
(polyimide-, fluorine-containing, microporous; microporous polymers with low dielec. constant and **electronic devices** therewith)

- IT Polyquinoxalines
RL: DEV (Device component use); PNU (Preparation, unclassified);
PRP (Properties); PREP (Preparation); USES (Uses)
(polyphenylquinoxalines, microporous; microporous polymers with
low dielec. constant and **electronic devices**
therewith)
- IT Polyoxyalkylenes, uses
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant
or reagent); USES (Uses)
(pyrolytic crosslinking agents; microporous polymers with low
dielec. constant and **electronic devices**
therewith)
- IT Crosslinking agents
(pyrolytic; microporous polymers with low dielec. constant and
electronic devices therewith)
- IT 24980-39-0P, 3,3',4,4'-Benzophenonetetracarboxylic acid
dianhydride-4,4'-diaminodiphenyl ether copolymer 24991-11-5P,
3,3',4,4'-Benzophenonetetracarboxylic acid dianhydride-4,4'-
diaminodiphenyl ether copolymer, sru 25568-77-8P 52232-62-9P
84769-07-3P, 2,2-Bis[4-(4-aminophenoxy)phenyl]hexafluoropropane-
pyromellitic dianhydride copolymer, sru 84789-95-7P,
2,2-Bis[4-(4-aminophenoxy)phenyl]-1,1,1,3,3,3-hexafluoropropane-
pyromellitic dianhydride copolymer **146191-98-2P**,
2,2-Bis(4-carboxyphenyl)-1,1,1,3,3,3-hexafluoropropane-3,3'-
dihydroxybenzidine copolymer, sru 205751-00-4P,
2,2-Bis(4-carboxyphenyl)hexafluoropropane-3,3'-dihydroxybenzidine
copolymer 375806-71-6P 375806-73-8P, 4,4'-Diamino-2,2',3,5-
tetrakis(trifluoromethyl)triphenylamine-p-ethynylaniline-
pyromellitic anhydride copolymer 375806-75-0P 375806-78-3P,
2-Amino-5-ethynylphenol-2,2-bis(4-carboxyphenyl)-1,1,1,3,3,3-
hexafluoropropane-3,3'-dihydroxybenzidine copolymer
RL: DEV (Device component use); PNU (Preparation, unclassified);
PRP (Properties); PREP (Preparation); USES (Uses)
(microporous; microporous polymers with low dielec. constant and
electronic devices therewith)
- IT 102-71-6, Triethanolamine, uses 25322-69-4, Polypropylene glycol
25723-16-4, Adeka T 4000 51178-86-0, Adeka EDP 1100
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant
or reagent); USES (Uses)
(pyrolytic crosslinking agents; microporous polymers with low
dielec. constant and **electronic devices**
therewith)

L121 ANSWER 28 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:816269 HCAPLUS

DOCUMENT NUMBER: 135:365302

TITLE: Positive-working heat-resistant photosensitive
polymer composition, method for pattern
formation, and **electronic**
part

INVENTOR(S): Yamazaki, Noriyuki; Oe, Tadayuki; Nunomura,
Masataka; Anzai, Takanori; Fujieda, Nagatoshi
PATENT ASSIGNEE(S): Hitachi Chemical Du Pont Micro System Co.,
Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

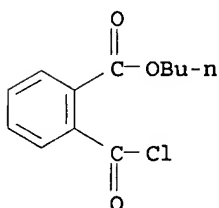
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PRIORITY APPLN. INFO.:

IT

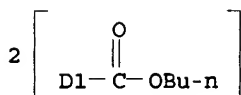
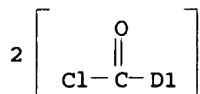


CM 2

CRN 212840-09-0

CMF C18 H20 C12 O6

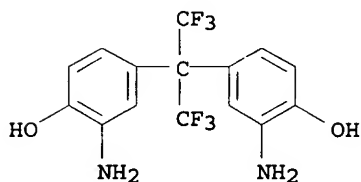
CCI IDS



CM 3

CRN 83558-87-6

CMF C15 H12 F6 N2 O2



- IC ICM G03F007-004
ICS G03F007-004; C08G073-10; C08K005-00; C08K005-02; C08K005-13;
C08L079-08; G03F007-037; H01L021-027; H01L021-312
- CC 76-3 (Electric Phenomena)
Section cross-reference(s): 74
- IT **Electric insulators**
(interlayer for semiconductor devices; pos.-working
heat-resistant photosensitive polyimide composition for pattern
formation of **electronic part**)
- IT Coating materials
Heat-resistant materials
Light-sensitive materials
Semiconductor device fabrication
(pos.-working heat-resistant photosensitive polyimide composition
for pattern formation of **electronic part**)
- IT Polyamides, uses
Polyimides, uses
RL: DEV (Device component use); TEM (Technical or engineered
material use); USES (Uses)
(pos.-working heat-resistant photosensitive polyimide composition
for pattern formation of **electronic part**)
- IT Polyamic acids
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(pos.-working heat-resistant photosensitive polyimide composition
for pattern formation of **electronic part**)

- IT Positive photoresists
(sensitizer; pos.-working heat-resistant photosensitive polyimide composition for pattern formation of **electronic part**)
- IT 603-44-1DP, Tris(4-hydroxyphenyl)methane, reaction products with naphthoquinonediazide 36451-09-9DP, Naphthoquinone-1,2-diazide-4-sulfonyl chloride, reaction products with hydroxyphenylmethane
RL: DEV (Device component use); MOA (Modifier or additive use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(photoacid generators; pos.-working heat-resistant photosensitive polyimide composition for pattern formation of **electronic part**)
- IT 138067-07-9P 163915-33-1P, 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane-3,3',4,4'-biphenylsulfonetetracarboxylic acid dianhydride copolymer 163915-34-2P 372162-70-4P 372170-81-5P
RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos.-working heat-resistant photosensitive polyimide composition for pattern formation of **electronic part**)
- IT 173736-46-4 372162-72-6
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(sensitizer; pos.-working heat-resistant photosensitive polyimide composition for pattern formation of **electronic part**)

L121 ANSWER 29 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:692195 HCAPLUS

DOCUMENT NUMBER: 135:258145

TITLE: **Electrically insulating**
polyimide-based compositions and their
production

INVENTOR(S): Eguchi, Toshimasa; Murata, Mitsuru; Enoki,
Naoshi

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001256829	A2	20010921	JP 2000-69369	2000 0313

PRIORITY APPLN. INFO.: JP 2000-69369

2000
0313

AB The title compns., with good heat resistance and useful for **elec. parts, semiconductor devices**, etc. (no data), comprise polyimides or precursors containing cyclobutane rings (e.g., 1,2,3,4-cyclobutanetetracarboxylic dianhydride-2,5-diamino-p-xylene copolymer, 4,4-diaminodiphenyl ether-tricyclo[6.4.0.0^{2,7}]dodecane-1,8,2,7-tetracarboxylic dianhydride copolymer) and heat-resistant materials or precursors [e.g., 2,2-bis(3-amino-4-hydroxyphenyl)hexafluoropropane-2,2'-

bis(trifluoromethyl)biphenyl-4,4'-dicarbonyl chloride,
2,2-bis(3-amino-4-hydroxyphenyl)hexafluoropropane-4,4'-
hexafluoroisopropylidenediphenyl-1,1'-dicarbonyl chloride].

IT 112513-26-5 262352-93-2, 2,2-Bis(3-amino-4-
hydroxyphenyl)hexafluoropropane-2,2'-bis(trifluoromethyl)biphenyl-
4,4'-dicarbonyl dichloride copolymer
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(elec. insulating polyimide-based compns.
and production)

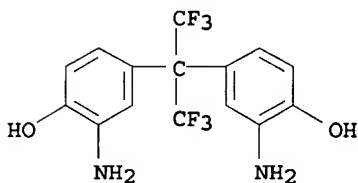
RN 112513-26-5 HCAPLUS

CN Benzoyl chloride, 4,4'-[2,2,2-trifluoro-1-
(trifluoromethyl)ethylidene]bis-, polymer with
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-
aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 83558-87-6

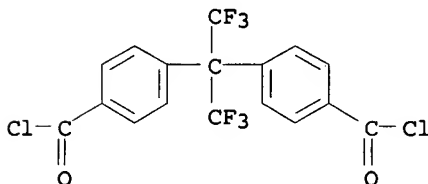
CMF C15 H12 F6 N2 O2



CM 2

CRN 1102-92-7

CMF C17 H8 Cl2 F6 O2



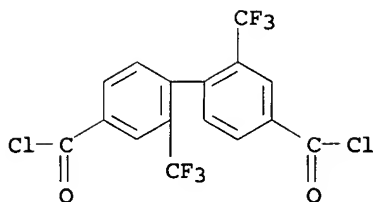
RN 262352-93-2 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-dicarbonyl dichloride, 2,2'-
bis(trifluoromethyl)-, polymer with 4,4'-[2,2,2-trifluoro-1-
(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX
NAME)

CM 1

CRN 86536-25-6

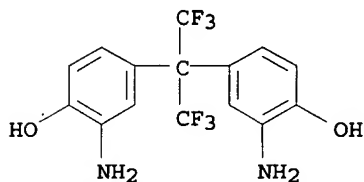
CMF C16 H6 Cl2 F6 O2



CM 2

CRN 83558-87-6

CMF C15 H12 F6 N2 O2



IC ICM H01B003-30
 ICS H01B003-30; C08G073-10; C08L079-04; C08L079-08; C08L101-00
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 76
 ST heat resistant polyimide **elec insulating** compn
 IT **Electric insulators**
 Heat-resistant materials
 (**elec. insulating** polyimide-based compns.
 and production)
 IT Polybenzoxazoles
 Polyimides, uses
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (**elec. insulating** polyimide-based compns.
 and production)
 IT 84536-77-6 84536-88-9 112513-26-5 113716-09-9
 262352-93-2, 2,2-Bis(3-amino-4-
 hydroxyphenyl)hexafluoropropane-2,2'-bis(trifluoromethyl)biphenyl-
 4,4'-dicarbonyl dichloride copolymer 262352-94-3 361459-29-2
 361459-30-5
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (**elec. insulating** polyimide-based compns.
 and production)

L121 ANSWER 30 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:270464 HCAPLUS

DOCUMENT NUMBER: 134:296661

TITLE: Heat-resistant polymer compositions containing polybenzoxazole precursors and bismaleimide

INVENTOR(S): Yoshida, Tatsuhiko; Nakajima, Michio

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 2001106784	A2	20010417	JP 1999-288816	1999 1008
PRIORITY APPLN. INFO.:			JP 1999-288816	1999 1008

AB Title compns., useful for elec. insulating films in electronic parts and elec. circuits, comprise polybenzoxazole precursors - (OCNHX(OH)2NHCOY)n- (X, Y = aromatic residue; n = 2-100) and bismaleimides. Thus, 8 parts polybenzoxazole precursor prepared from 2,2'-bis(3-amino-4-hydroxyphenyl)hexafluoropropane and 4,4'-bis(chlorocarbonyl)diphenyl ether was mixed with 2,2'-bis(4-maleimidophenyl)propane 2 and N-methyl-2-pyrrolidone 30 parts, coated on a glass plate and cured to give a film showing thermal decomposition temperature 511°, water absorption 0.4%, dielec. constant 2.8 and tensile strength 93 GPa.

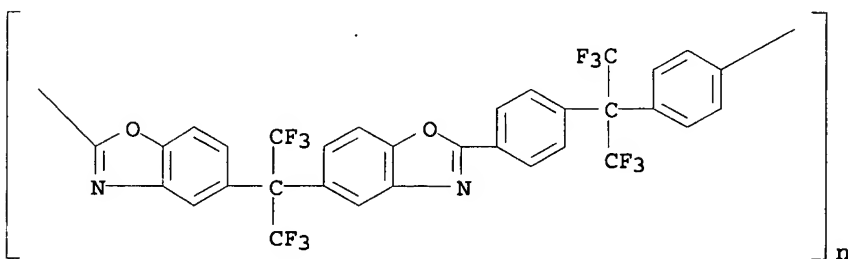
IT 112480-81-6P 112480-83-8P 112513-26-5P
133440-72-9P

RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)

(heat-resistant polymer compns. containing polybenzoxazole precursors and bismaleimide)

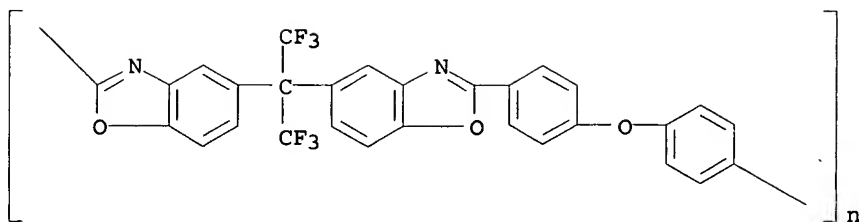
RN 112480-81-6 HCAPLUS

CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl-1,4-phenylene[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-1,4-phenylene] (9CI) (CA INDEX NAME)



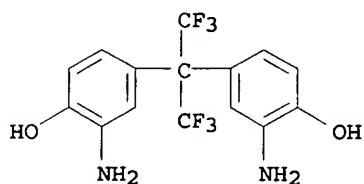
RN 112480-83-8 HCAPLUS

CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl-1,4-phenyleneoxy-1,4-phenylene] (9CI) (CA INDEX NAME)

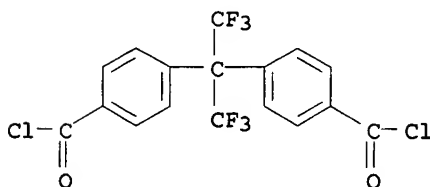


Benzoyl chloride, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CRN 83558-87-6
CMF C15 H12 F6 N2 O2

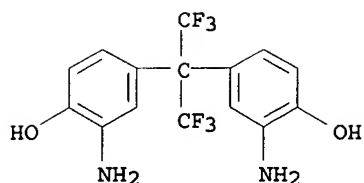


CRN 1102-92-7
CMF C17 H8 Cl2 F6 O2



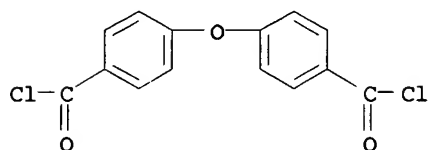
CN Benzoyl chloride, 4,4'-oxybis-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CRN 83558-87-6
CMF C15 H12 F6 N2 O2



CM 2

CRN 7158-32-9
CMF C14 H8 Cl2 O3



IC ICM C08G073-06
ICS H01B003-30
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 76
ST polybenzoxazole precursor bismaleimide compn heat resistance;
elec insulator polybenzoxazole precursor
bismaleimide compn
IT **Electric insulators**
Heat-resistant materials
(heat-resistant polymer compns. containing polybenzoxazole
precursors and bismaleimide)
IT **112480-81-6P 112480-82-7P 112480-83-8P**
112513-26-5P 113716-09-9P 133440-72-9P
RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)
(heat-resistant polymer compns. containing polybenzoxazole
precursors and bismaleimide)

L121 ANSWER 31 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:98730 HCAPLUS

DOCUMENT NUMBER: 134:164115

TITLE: Heat-resistant compns. containing heat-resistant
polymers or their precursors and
photodegradable polymers for insulating
materials with fine voids

INVENTOR(S): Eguchi, Toshimasa; Murata, Mitsuru; Murayama,
Mitsumoto

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001035256 A2 20010209 JP 1999-209985

1999

0723

PRIORITY APPLN. INFO.: JP 1999-209985

1999

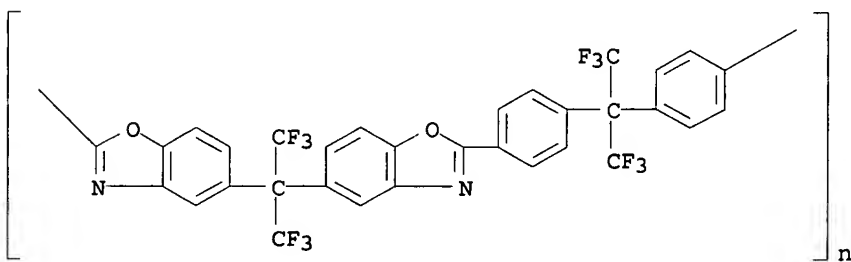
0723

AB Title composition, useful as elec. insulators with good heat resistance and low dielec. constant for electricity and electronic equipment and semiconductor devices, comprises (A) a photodegradable polymer [e.g., poly(Me methacrylate)], and a heat-resistant polymer and/or precursor [e.g., a polyimide prepared from 2,2-bis(4-(4,4'-aminophenoxy)phenyl)hexafluoropropane, 2,2'-bis(trifluoromethyl)-4,4'-diaminobiphenyl, biphenyltetracarboxylic acid dianhydride and hexafluoroisopropylidene-2,2-bis(phthalic anhydride)]. The photodecomposed products of the photodegradable polymers are removed from the films obtained from the compns. by thermally volatilization and solvent extraction to form the films with fine voids.

IT 112480-81-6P, 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane-4,4'-hexafluoroisopropylidene diphenyl-1,1'-dicarboxylic dichloride copolymer, polybenzoxazole SRU 112513-26-5P, 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane-4,4'-hexafluoroisopropylidenediphenyl-1,1'-dicarboxylic dichloride copolymer 262352-93-2P
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (heat-resistant compns. containing heat-resistant polymers or their precursors and photodegradable polymers for insulating materials with fine voids)

RN 112480-81-6 HCAPLUS

CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl-1,4-phenylene[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-1,4-phenylene] (9CI) (CA INDEX NAME)



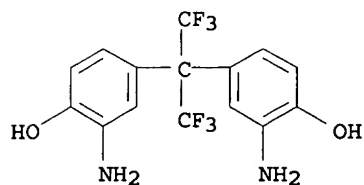
RN 112513-26-5 HCAPLUS

CN Benzoyl chloride, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 83558-87-6

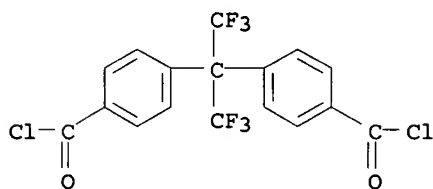
CMF C15 H12 F6 N2 O2



CM 2

CRN 1102-92-7

CMF C17 H8 Cl2 F6 O2



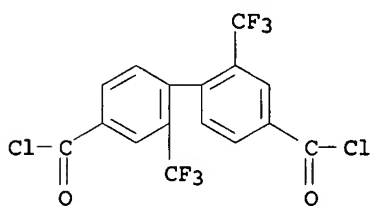
RN 262352-93-2 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-dicarbonyl dichloride, 2,2'-bis(trifluoromethyl)-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 86536-25-6

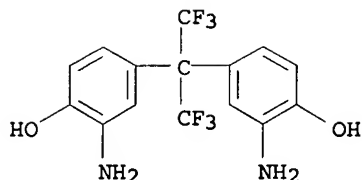
CMF C16 H6 Cl2 F6 O2



CM 2

CRN 83558-87-6

CMF C15 H12 F6 N2 O2

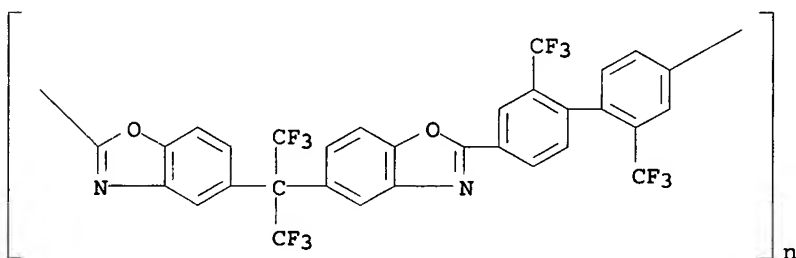


IT 262352-95-4

RL: RCT (Reactant); RACT (Reactant or reagent)
 (heat-resistant compns. containing heat-resistant polymers or their
 precursors and photodegradable polymers for insulating
 materials with fine voids)

RN 262352-95-4 HCAPLUS

CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl[2,2'-bis(trifluoromethyl)[1,1'-biphenyl]-4,4'-diyl]] (9CI) (CA INDEX NAME)



IC ICM H01B003-30

ICS H01B003-30; C08J003-28; C08L079-04; H01L021-312; C08J009-26;
 C09D005-25; C09D179-04

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 76

ST polyimide blend elec insulator heat

resistance; polymethyl methacrylate photodegradable blend dielec
 const

IT Electric insulators

Semiconductor devices

(heat-resistant compns. containing heat-resistant polymers or their
 precursors and photodegradable polymers for insulating
 materials with fine voids)

IT 9043-05-4P 25036-53-7P 25038-81-7P, 4,4'-Diaminodiphenyl
 ether-pyromellitic dianhydride copolymer 112480-81-6P,
 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane-4,4'-
 hexafluoroisopro pyridene diphenyl-1,1'-dicarboxylic dichloride
 copolymer, polybenzoxazole SRU 112513-26-5P,
 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane-4,4'-
 hexafluoroisopropylidenediphenyl-1,1'-dicarboxylic dichloride
 copolymer 262352-93-2P 262352-94-3P 319913-58-1P

RL: IMF (Industrial manufacture); POF (Polymer in formulation);

TEM (Technical or engineered material use); PREP (Preparation);

USES (Uses)

(heat-resistant compns. containing heat-resistant polymers or their
 precursors and photodegradable polymers for insulating
 materials with fine voids)

IT 1171-47-7 89803-71-4 262352-95-4

RL: RCT (Reactant); RACT (Reactant or reagent)
(heat-resistant compns. containing heat-resistant polymers or their
precursors and photodegradable polymers for insulating
materials with fine voids)

L121 ANSWER 32 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:36912 HCAPLUS

DOCUMENT NUMBER: 134:101643

TITLE: Heat-resistant resin or precursor compositions
containing photopolymerable compounds for
electric insulators

INVENTOR(S): Eguchi, Toshimasa; Murata, Mitsuru; Enoki,
Hisashi

PATENT ASSIGNEE(S): Sumitomo Bakelite Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001011181	A2	20010116	JP 1999-189108	1999 0702

PRIORITY APPLN. INFO.: JP 1999-189108

1999
0702

AB The composition, useful as **elec. insulators** with
good heat and elec. characteristics for **electricity** and
electronic equipment and semiconductor devices,
comprises (A) a photopolymerable functional group-containing compound,
and (B) a heat-resistant resin or its precursor, wherein glass
transition temperature of the resin is higher than thermal decomposition
temperature of polymerized A. Thus, 10 parts polyimide (Tg 335°)
prepared from 2,2-bis(4-(4,4'-aminophenoxy)phenyl)hexafluoropropane
5.18, 2,2'-bis(trifluoromethyl)-4,4'-diaminobiphenyl 9.60,
pyromellitic dianhydride 2.94, and hexafluoroisopropylidene-2,2-
bis(phthalic anhydride) 13.32 parts was mixed with poly(ethylene
glycol) dimethacrylate 5.0 and benzophenone 0.02 parts was
spin-coated onto a silicon wafer having a tantalum layer,
UV-irradiated and heat cured to give a 0.8 µm-thick film
showing dielec. const.2.4.

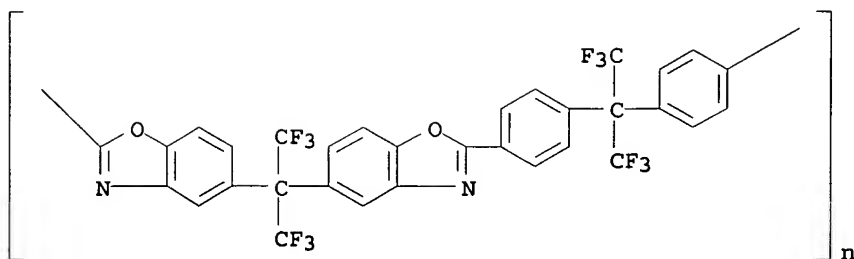
IT 112480-81-6P, 2,2-Bis(3-amino-4-
hydroxyphenyl)hexafluoropropane-4,4'-hexafluoroisopropylidene
diphenyl-1,1'-dicarboxylic dichloride copolymer, polybenzoxazole
SRU 112513-26-5P 262352-93-2P
262352-95-4P

RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)

(heat-resistant polyimide or polybenzoxazole compns. containing
photopolymerable compds. for **elec. insulators**
)

RN 112480-81-6 HCAPLUS

CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-
(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl-1,4-
phenylene[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-1,4-
phenylene] (9CI) (CA INDEX NAME)



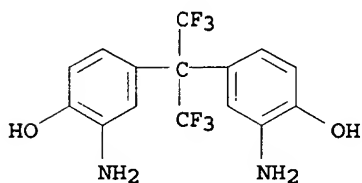
RN 112513-26-5 HCAPLUS

CN Benzoyl chloride, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 83558-87-6

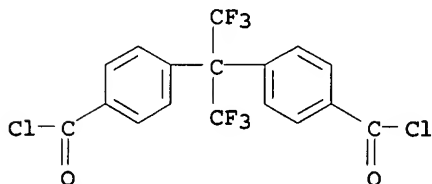
CMF C15 H12 F6 N2 O2



CM 2

CRN 1102-92-7

CMF C17 H8 Cl2 F6 O2



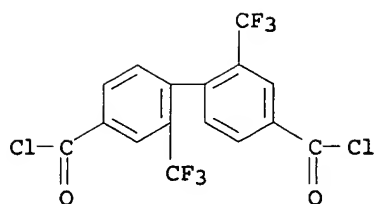
RN 262352-93-2 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-dicarbonyl dichloride, 2,2'-bis(trifluoromethyl)-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 86536-25-6

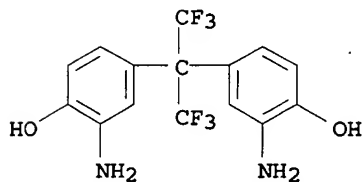
CMF C16 H6 Cl2 F6 O2



CM 2

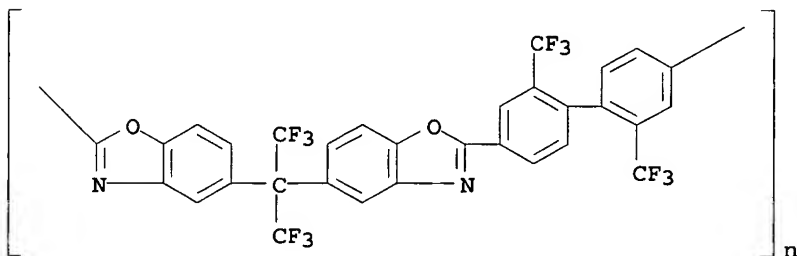
CRN 83558-87-6

CMF C15 H12 F6 N2 O2



RN 262352-95-4 HCAPLUS

CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl[2,2'-bis(trifluoromethyl)[1,1'-biphenyl]-4,4'-diyl]] (9CI) (CA INDEX NAME)



IC ICM C08G073-22

ICS C08G073-10; H01L023-29; H01L023-31

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 76

ST heat resistance polymer **elec insulator**
semiconductor; polyimide heat resistance **elec insulator**; polybenzoxazole heat resistance **elec insulator**; polyethylene glycol dimethacrylate **elec insulator**

IT Polyamides, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation);

TEM (Technical or engineered material use); PREP (Preparation);

USES (Uses)

(fluorine- and hydroxy-containing; heat-resistant polyimide or polybenzoxazole compns. containing photopolymerable compds. for **elec. insulators**)

- IT Polybenzoxazoles
Polyimides, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)
(fluorine-containing; heat-resistant polyimide or polybenzoxazole
compns. containing photopolymerable compds. for elec.
insulators)
- IT Electric insulators
Heat-resistant materials
Semiconductor devices
(heat-resistant polyimide or polybenzoxazole compns. containing
photopolymerable compds. for elec. insulators
)
- IT Polyamic acids
Polybenzoxazoles
Polyimides, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)
(heat-resistant polyimide or polybenzoxazole compns. containing
photopolymerable compds. for elec. insulators
)
- IT Polymer blends
RL: TEM (Technical or engineered material use); USES (Uses)
(heat-resistant polyimide or polybenzoxazole compns. containing
photopolymerable compds. for elec. insulators
)
- IT Polyethers, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)
(polyamic acid-, fluorine-containing; heat-resistant polyimide or
polybenzoxazole compns. containing photopolymerable compds. for
elec. insulators)
- IT Fluoropolymers, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)
(polyamic acid-polyether-; heat-resistant polyimide or
polybenzoxazole compns. containing photopolymerable compds. for
elec. insulators)
- IT Fluoropolymers, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)
(polyamide-, hydroxy-containing; heat-resistant polyimide or
polybenzoxazole compns. containing photopolymerable compds. for
elec. insulators)
- IT Fluoropolymers, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)
(polybenzoxazole-; heat-resistant polyimide or polybenzoxazole
compns. containing photopolymerable compds. for elec.
insulators)
- IT Polyamic acids
Polyimides, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)
(polyether-, fluorine-containing; heat-resistant polyimide or

- polybenzoxazole compns. containing photopolymerable compds. for
elec. insulators)
- IT Fluoropolymers, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)
(polyether-polyimide-; heat-resistant polyimide or
polybenzoxazole compns. containing photopolymerable compds. for
elec. insulators)
- IT Polyethers, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)
(polyimide-, fluorine-containing; heat-resistant polyimide or
polybenzoxazole compns. containing photopolymerable compds. for
elec. insulators)
- IT Fluoropolymers, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)
(polyimide-; heat-resistant polyimide or polybenzoxazole
compns. containing photopolymerable compds. for **elec.**
insulators)
- IT 9043-05-4P, 4,4'-Diaminodiphenyl ether-pyromellitic dianhydride
copolymer, polyamic acid SRU 9051-34-7P, Polyethylene glycol
dimethacrylate homopolymer 25036-53-7P, 4,4'-Diaminodiphenyl
ether-pyromellitic dianhydride copolymer, polyimide sru
25038-81-7P, 4,4-Diaminodiphenyl ether-pyromellitic dianhydride
copolymer 54002-11-8P 69067-16-9P **112480-81-6P**,
2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane-4,4'-
hexafluoroisopropylidene diphenyl-1,1'-dicarboxylic dichloride
copolymer, polybenzoxazole SRU **112513-26-5P**
262352-93-2P 262352-94-3P **262352-95-4P**
295358-48-4P
RL: IMF (Industrial manufacture); POF (Polymer in formulation);
TEM (Technical or engineered material use); PREP (Preparation);
USES (Uses)
(heat-resistant polyimide or polybenzoxazole compns. containing
photopolymerable compds. for **elec. insulators**
)
- IT 1171-47-7 89803-71-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(heat-resistant polyimide or polybenzoxazole compns. containing
photopolymerable compds. for **elec. insulators**
)

L121 ANSWER 33 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:863751 HCAPLUS

DOCUMENT NUMBER: 134:35038

TITLE: Photosensitive resin composition for the
formation of patterns in **electronic**
parts

INVENTOR(S): Yamazaki, Noriyuki; Sasaki, Mamoru; Anzai,
Takanori; Fujie, Nagatoshi

PATENT ASSIGNEE(S): Hitachi Chemical Du Pont Micro System Co.,
Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000338664	A2	20001208	JP 1999-148330	1999 0527
JP 3455697	B2	20031014		2003 0127
JP 2004029712	A2	20040129	JP 2003-17698	1999 0527

PRIORITY APPLN. INFO.: JP 1999-148330 A3

AB The title photosensitive resin composition comprises (A) an alkaline water-soluble polymer, (B) o-quinonediazide compound, and (C) an acidic compound. The photosensitive resin composition is used as a protective film and an interlayer insulating film of an **electronic parts**. This title photosensitive resin composition has good storage stability.

IT 312308-57-9P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photosensitive resin composition for the formation of patterns in **electronic parts**)

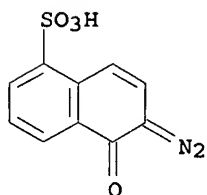
RN 312308-57-9 HCAPLUS

CN Benzoic acid, sulfonylbis[2-(chlorocarbonyl)-, dibutyl ester, polymer with 4,4',4''-methylidynetris[phenol] and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol], 6-diazo-5,6-dihydro-5-oxo-1-naphthalenesulfonate (ester) (9CI) (CA INDEX NAME)

CM 1

CRN 20546-03-6

CMF C10 H6 N2 O4 S



CM 2

CRN 837363-46-9

CMF (C24 H24 Cl2 O8 S . C19 H16 O3 . C15 H12 F6 N2 O2)x

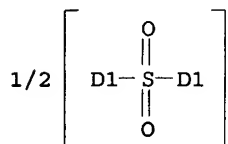
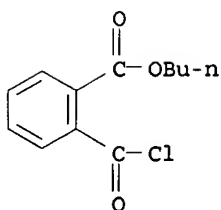
CCI PMS

CM 3

CRN 201356-56-1

CMF C24 H24 Cl2 O8 S

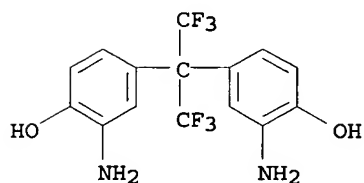
CCI IDS



CM 4

CRN 83558-87-6

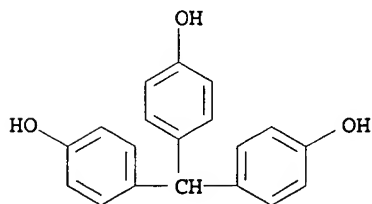
CMF C15 H12 F6 N2 O2



CM 5

CRN 603-44-1

CMF C19 H16 O3



IC ICM G03F007-027

ICS C08L079-06; C08L079-08; C08L101-14; G03F007-022

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 35, 38, 76

ST photosensitive resin compn protective film; interlayer
insulating film electronic parts

IT Coating materials
Dielectric films

Photoimaging materials

(photosensitive resin composition for the formation of patterns in electronic parts)

IT Polyamic acids

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

(photosensitive resin composition for the formation of patterns in electronic parts)

IT Polyimides, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(photosensitive resin composition for the formation of patterns in electronic parts)

IT 201356-47-0P 201356-56-1P 213608-87-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP

(Preparation); RACT (Reactant or reagent)

(photosensitive resin composition for the formation of patterns in electronic parts)

IT 312308-56-8P 312308-57-9P 312308-58-0P

RL: SPN (Synthetic preparation); TEM (Technical or engineered

material use); PREP (Preparation); USES (Uses)

(photosensitive resin composition for the formation of patterns in electronic parts)

L121 ANSWER 34 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:835217 HCAPLUS

DOCUMENT NUMBER: 134:23499

TITLE: Heating of patterned heat-resistant resin composition film

INVENTOR(S): Okuda, Ryoji; Tomikawa, Masao; Fujita, Yoji

PATENT ASSIGNEE(S): Toray Industries, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000327775	A2	20001128	JP 1999-137155	1999 0518

PRIORITY APPLN. INFO.: JP 1999-137155

1999
0518

AB The pattern of the composition containing a polymer based on structural repeating unit $[\text{COR}_1(\text{OH})_p(\text{CO}_2\text{R}_3)_n\text{CONHR}_2(\text{OH})_q\text{NH}]_m$ ($\text{R}_1 = \text{C}\geq 2$ 3-8-valent organic group; $\text{R}_2 = \text{C}\geq 2$ 2-6-valent organic group; $\text{R}_3 = \text{H}$, alkali metal ion, ammonium ion, C1-20 organic group; $m = 3-100,000$; $n = 0-2$; $p, q = 0-4$; $n + q > 0$) is heated at $(T \pm 10)^\circ$ ($T = \text{m.p. of solvents contained in the polymer under 1 atm}$) for ≥ 10 min. The composition contains the polymer and a photosensitive acid-generating agent. The edge of the pattern shows retention of rectangular shape, due to the heating, in posttreatment. The process is suitable in formation of intermediate elec. insulator film in semiconductor devices, etc.

IT 112492-59-8P, 2,2-Bis(3-amino-4-

hydroxyphenyl)hexafluoropropane-isophthaloyl dichloride copolymer

RL: IMF (Industrial manufacture); TEM (Technical or engineered

material use); PREP (Preparation); USES (Uses)
 (heating of heat-resistant polymer composition film photolithog.
 pattern for keeping shape of edge)

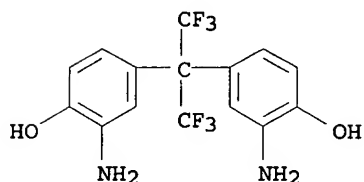
RN 112492-59-8 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, polymer with
 4,4'-(2,2,2-trifluoro-1-(trifluoromethyl)ethylidene)bis[2-
 aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 83558-87-6

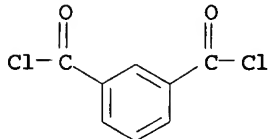
CMF C15 H12 F6 N2 O2



CM 2

CRN 99-63-8

CMF C8 H4 Cl2 O2



IC ICM C08G069-26

ICS C08G073-10; C08J007-00; C08L077-06; C08L079-08; G03F007-11;
 H01L021-027

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)

Section cross-reference(s): 38, 76

ST heating heat resistant photolithog film pattern; edge shape
 rectangular retention photolithog pattern; semiconductor
 device elec insulator film photolithog

IT 84329-58-8P, 3,3',4,4'-Benzophenonetetracarboxylic
 dianhydride-1,3-bis(3-aminopropyl)tetramethyldisiloxane-4,4'-
 diaminodiphenyl ether-pyromellitic dianhydride copolymer
 106709-71-1P 112492-59-8P, 2,2-Bis(3-amino-4-
 hydroxyphenyl)hexafluoropropane-isophthaloyl dichloride copolymer
 113339-21-2P 231963-06-7P 232589-14-9P 251904-83-3P
 261373-47-1P 261503-45-1P

RL: IMF (Industrial manufacture); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)

(heating of heat-resistant polymer composition film photolithog.
 pattern for keeping shape of edge)

L121 ANSWER 35 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:769594 HCAPLUS

DOCUMENT NUMBER: 133:342600

TITLE: Photosensitive polyamide compositions,
manufacture of relief patterns from the
compositions, and electric
parts thereof

INVENTOR(S): Oe, Tadayuki; Nunomura, Masataka; Yamazaki,
Noriyuki; Anzai, Takanori; Fujie, Nagatoshi

PATENT ASSIGNEE(S): Hitachi Chemical Du Pont Micro System Co.,
Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000305268	A2	20001102	JP 1999-109443	1999 0416
PRIORITY APPLN. INFO.:			JP 1999-109443	1999 0416

AB The photosensitive compns. contain (a) aqueous alkali-soluble polyamides having mer units NHU(OH)2NHC(O)VC(O) (U = tetravalent organic group; V = divalent organic group), (b) photoacid generators, and (c) compds. selected from (c1) compds. having methylol and phenolic OH, (c2) compds. having amino and phenolic OH, (c3) compds. with 2 aromatic rings bonded via single bonds or divalent groups (methylene and alkylidene excluded) and having phenolic OH at least on 1 of the ring, and (c4) compds. with ≥ 3 aromatic rings, ≥ 1 of which have phenolic OH. The compns. may further contain (d) compds. inhibiting the polyamides' dissoln. in aqueous alkalis. The compns. are pos.-working and form heat-resistant polybenzoxazole-type polymers by heating for surface protection films and interlayer dielec. films for semiconductor devices, etc.

IT 133440-72-9P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(pos. photosensitive polyhydroxyamide compns. for manufacture of polybenzoxazole-type relief patterns)

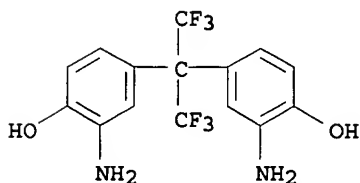
RN 133440-72-9 HCAPLUS

CN Benzoyl chloride, 4,4'-oxybis-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

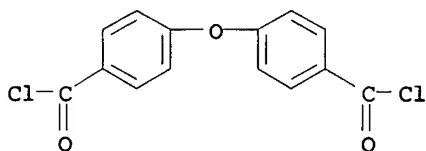
CRN 83558-87-6

CMF C15 H12 F6 N2 O2



CM 2

CRN 7158-32-9
CMF C14 H8 Cl2 O3



IC ICM G03F007-037
ICS C08G073-22; C08K005-00; C08K005-13; C08L079-04; G03F007-004;
G03F007-40; H01L021-027
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 76
IT **Electric insulators**
(coatings, interlayer, for semiconductor devices; pos.
photosensitive polyhydroxyamide compns. for manufacture of
polybenzoxazole-type relief patterns)
IT 7158-32-9P **133440-72-9P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(pos. photosensitive polyhydroxyamide compns. for manufacture of
polybenzoxazole-type relief patterns)

L121 ANSWER 36 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:733095 HCAPLUS

DOCUMENT NUMBER: 133:282253

TITLE: Fluorinated polybenzoxazoles with low
dielectric constant and thermal expansion, and
their precursors

INVENTOR(S): Maeda, Kazuhiko; Moroi, Nagahiro; Ishida,
Michio; Tsutsumi, Kentaro

PATENT ASSIGNEE(S): Central Glass Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

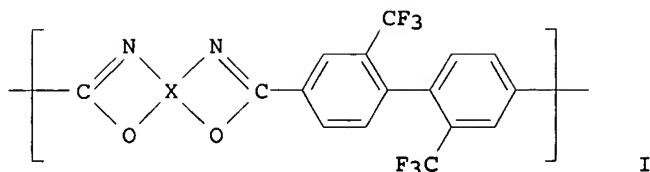
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000290374	A2	20001017	JP 1999-102482	1999 0409
US 6291635	B1	20010918	US 2000-544502	2000 0407
US 2001051705	A1	20011213	US 2001-904529	2001 0716
US 6384182	B2	20020507		
PRIORITY APPLN. INFO.:			JP 1999-102482	A

1999
0409

US 2000-544502

A3
2000
0407

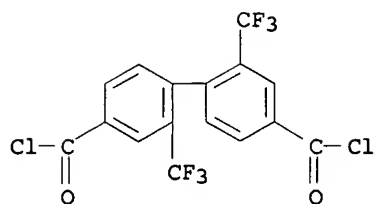
GI



- AB The title polymers, useful for **elec. or electronic parts**, etc., have structural repeating units I (X = tetraivalent aromatic residue; N and O in the rings are at the ortho positions in the X to form 5-membered ring). 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane was polymerized with 2,2'-bis(trifluoromethyl)-4,4'-biphenyldicarbonyl dichloride for 5 h to give F-containing polyamide with reduced viscosity 0.70 dL/g (at 30°, 0.1 g/dL in AcNMe₂), which was dissolved in AcNMe₂, cast on on a glass plate, and heated up to 300° to form F-containing polybenzoxazole film with dielec. constant 2.4 (1 MHz) and linear thermal expansion coefficient 2 + 10-5/°C.
- IT **262352-93-2P**, 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane-2,2'-bis(trifluoromethyl)-4,4'-biphenyldicarbonyl dichloride copolymer **262352-96-5P**, 2,2'-Bis(trifluoromethyl)-4,4'-biphenyldicarbonyl dichloride-3,3'-dihydroxy-4,4'-diamino biphenyl copolymer
 RL: IMF (Industrial manufacture); PRP (Properties); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (manufacture of fluorinated polybenzoxazoles with low dielec. constant and thermal expansion for **electronic parts**)
- RN **262352-93-2** HCAPLUS
- CN [1,1'-Biphenyl]-4,4'-dicarbonyl dichloride, 2,2'-bis(trifluoromethyl)-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

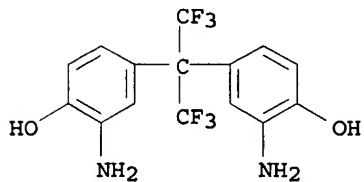
CRN 86536-25-6
CMF C16 H6 C12 F6 O2



CM 2

CRN 83558-87-6

CMF C15 H12 F6 N2 O2



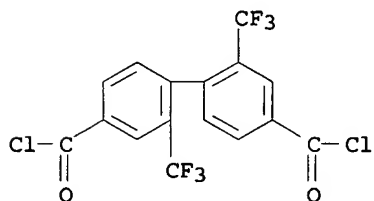
RN 262352-96-5 HCAPLUS

CN [1,1'-Biphenyl]-4,4'-dicarbonyl dichloride, 2,2'-bis(trifluoromethyl)-, polymer with 4,4'-diamino[1,1'-biphenyl]-3,3'-diol (9CI) (CA INDEX NAME)

CM 1

CRN 86536-25-6

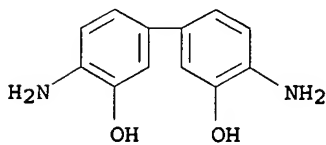
CMF C16 H6 Cl2 F6 O2



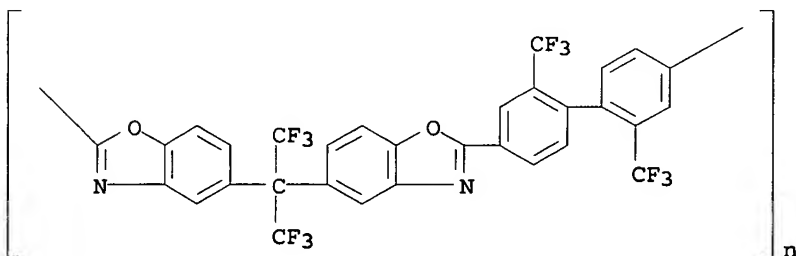
CM 2

CRN 2373-98-0

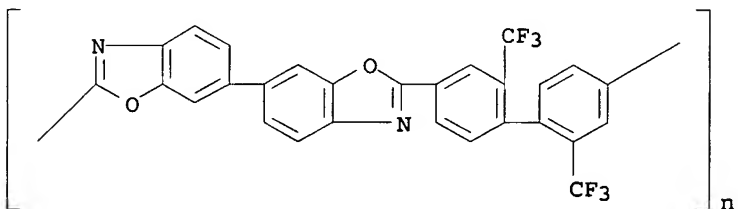
CMF C12 H12 N2 O2



IT 262352-95-4P 262352-98-7P
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (manufacture of fluorinated polybenzoxazoles with low dielec. constant and thermal expansion for **electronic parts**)
 RN 262352-95-4 HCAPLUS
 CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl[2,2'-bis(trifluoromethyl)[1,1'-biphenyl]-4,4'-diyl]] (9CI) (CA INDEX NAME)



RN 262352-98-7 HCAPLUS
 CN Poly[[6,6'-bibenzoxazole]-2,2'-diyl[2,2'-bis(trifluoromethyl)[1,1'-biphenyl]-4,4'-diyl]] (9CI) (CA INDEX NAME)



IC ICM C08G073-22
 CC 35-5 (Chemistry of Synthetic High Polymers)
 Section cross-reference(s): 76
 ST fluorinated polybenzoxazole manuf **elec insulator**
 ; thermal expansion low fluorinated polybenzoxazole manuf;
 aminohydroxyphenylhexafluoropropane fluoromethylbiphenyldicarbonyl
 dichloride copolymer manuf electronic
 IT Polyamides, preparation
 Polyamides, preparation
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (fluorine-containing, precursors; manufacture of fluorinated
 polybenzoxazoles with low dielec. constant and thermal expansion
 for **electronic parts**)
 IT Polybenzoxazoles
 Polybenzoxazoles
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (fluorine-containing; manufacture of fluorinated polybenzoxazoles with
 low dielec. constant and thermal expansion for **electronic parts**)
 IT **Electric apparatus**

Electric insulators

(manufacture of fluorinated polybenzoxazoles with low dielec. constant and thermal expansion for **electronic parts**)

IT Fluoropolymers, preparation

Fluoropolymers, preparation

RL: IMF (Industrial manufacture); RCT (Reactant); PREP

(Preparation); RACT (Reactant or reagent)

(polyamide-, precursors; manufacture of fluorinated polybenzoxazoles with low dielec. constant and thermal expansion for **electronic parts**)

IT Fluoropolymers, preparation

Fluoropolymers, preparation

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical

or engineered material use); PREP (Preparation); USES (Uses)

(polybenzoxazole-; manufacture of fluorinated polybenzoxazoles with low dielec. constant and thermal expansion for **electronic parts**)

IT 262352-93-2P, 2,2-Bis(3-amino-4-

hydroxyphenyl)hexafluoropropane-2,2'-bis(trifluoromethyl)-4,4'-

biphenyldicarbonyl dichloride copolymer 262352-96-5P,

2,2'-Bis(trifluoromethyl)-4,4'-biphenyldicarbonyl

dichloride-3,3'-dihydroxy-4,4'-diamino biphenyl copolymer

RL: IMF (Industrial manufacture); PRP (Properties); RCT

(Reactant); TEM (Technical or engineered material use); PREP

(Preparation); RACT (Reactant or reagent); USES (Uses)

(manufacture of fluorinated polybenzoxazoles with low dielec. constant and thermal expansion for **electronic parts**)

IT 262352-95-4P 262352-98-7P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical

or engineered material use); PREP (Preparation); USES (Uses)

(manufacture of fluorinated polybenzoxazoles with low dielec. constant and thermal expansion for **electronic parts**)

IT 262352-94-3P 262352-97-6P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP

(Preparation); RACT (Reactant or reagent)

(manufacture of fluorinated polybenzoxazoles with low dielec. constant and thermal expansion for **electronic parts**)

L121 ANSWER 37 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:89548 HCAPLUS

DOCUMENT NUMBER: 132:144416

TITLE: Alkaline-developable photosensitive
heat-resistant polymer precursor composition

INVENTOR(S): Tomikawa, Masao; Yoshida, Naoyo; Okuda, Ryoji

PATENT ASSIGNEE(S): Toray Industries, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

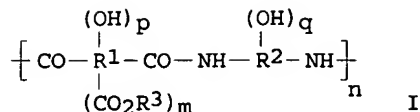
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000039714	A2	20000208	JP 1999-128166	1999 0510
JP 3514167	B2	20040331		
PRIORITY APPLN. INFO.:			JP 1998-131765	A 1998 0514

GI



AB The title composition comprises (a) polymer comprising a structuring repeating unit of I (R1 = 2- to 8-valent organic group having ≥ 2 carbons; R2 = 2- to 6-valent organic group containing ≥ 2 carbons; R3 = H, organic group containing 1-20 carbons; $n = 10$ -100,000; $m = 0, 1, 2$; $p, q = 0$ -4; $m + p + q \geq 1$), (b) quinonediazide compound, and (c) hardening agent. The hardening agent may be epoxy resin or metal (Ti, Al, or Zr) chelate compound

IT 257280-04-9P, 2,2-Bis(3-amino-4-hydroxyphenyl)hexafluoropropane-4,4'-dicarboxydiphenyl ether chloride-isophthalic acid chloride copolymer
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (in alkaline-developable photosensitive heat-resistant polymer precursor composition)

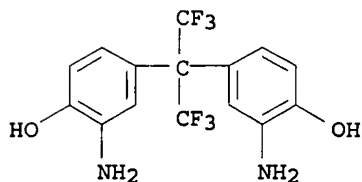
RN 257280-04-9 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, polymer with 4,4'-oxybis[benzoyl chloride] and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

CRN 83558-87-6

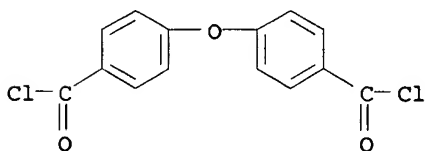
CMF C15 H12 F6 N2 O2



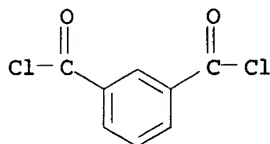
CM 2

CRN 7158-32-9

CMF C14 H8 Cl2 O3



CM 3

CRN 99-63-8
CMF C8 H4 Cl2 O2

IC ICM G03F007-037
ICS C08K005-28; C09D005-00; G03F007-022; H01L021-027;
H01L021-312; H01L023-29; H01L023-31; C08L079-08; C09D179-04;
C09D179-08; C08L063-00

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 38, 42, 76

IT 25085-92-1P, 4,4'-Diaminodiphenyl ether-
benzophenonetetracarboxylic dianhydride-pyromellitic anhydride
copolymer 223449-04-5P, 2,2-Bis(3-amino-4-
hydroxyphenyl)hexafluoropropane-1,3-bis(3-
aminopropyl)tetramethyldisiloxane-4,4'-diaminodiphenyl
ether-trimellitic anhydride copolymer 257280-01-6P
257280-03-8P 257280-04-9P, 2,2-Bis(3-amino-4-
hydroxyphenyl)hexafluoropropane-4,4'-dicarboxydiphenyl ether
chloride-isophthalic acid chloride copolymer
RL: SPN (Synthetic preparation); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(in alkaline-developable photosensitive heat-resistant polymer
precursor composition)

L121 ANSWER 38 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:365721 HCAPLUS

DOCUMENT NUMBER: 131:32294

TITLE: Manufacture of chlorine-free polyamides or
their derivatives with no gelation
INVENTOR(S): Oe, Tadayuki; Uchimura, Shunichiro
PATENT ASSIGNEE(S): Hitachi Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11152329	A2	19990608	JP 1997-320649	1997 1121

PRIORITY APPLN. INFO.: JP 1997-320649

1997
1121

AB The polyamides or their derivs., useful for protection and
insulation of electronic parts, have

COXCONHRNH unit (X = bivalent residue of tetracarboxylic acid diester or dicarboxylic acid; R = diamine residue) and are manufactured by reaction of (A) diamine compds. having phenolic OH or CO₂H and (B) reactive esters [C₆H₃-m(NO₂)₂YmOCO]2X (X = same as above; Y = alkyl, halo; m = 0-3). Thus, 0.204 mol di-Ph ether 3,3',4,4'-tetracarboxylic acid di-Bu ester was esterified with equimolar 2,4-dinitrophenol in the presence of N,N'-dicyclohexylcarbodiimide, polymerized with 0.069 mol 2,2-bis(3-amino-4-hydroxyphenyl)hexafluoropropane and 0.03 mol 4,4'-diaminodiphenyl sulfone, washed, and dried to give a polyamic acid ester showing weight-average mol. weight 11,400.

IT 226908-83-4P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of chlorine-free polyamides or their derivs. with no gelation)

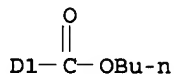
RN 226908-83-4 HCAPLUS

CN Benzenedicarboxylic acid, oxybis-, ar,ar'-dibutyl ar,ar'-bis(2,4-dinitrophenyl) ester, polymer with 4,4'-sulfonylbis[benzenamine] and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

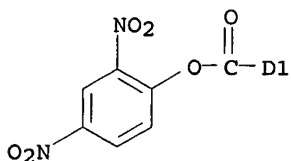
CRN 226908-82-3
CMF C36 H30 N4 O17
CCI IDS

PAGE 1-A



1/2 (D1-O-D1)

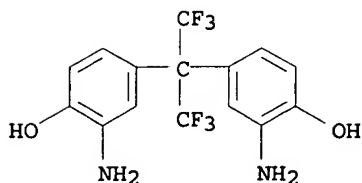
PAGE 2-A



CM 2

CRN 83558-87-6

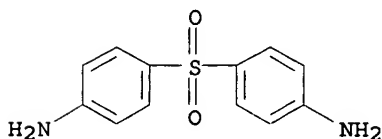
CMF C15 H12 F6 N2 O2



CM 3

CRN 80-08-0

CMF C12 H12 N2 O2 S



IC ICM C08G069-26

ICS C08G073-10

CC 35-5 (Chemistry of Synthetic High Polymers)

IT 226893-11-4P 226908-83-4P 226908-86-7P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manufacture of chlorine-free polyamides or their derivs. with no gelation)

L121 ANSWER 39 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:210660 HCAPLUS

DOCUMENT NUMBER: 128:283305

TITLE: Polyazole precursor compositions and electronic parts using the same and manufacture thereof, with low dielectric constant and film-forming temperature and good moisture resistance and environmental stability

INVENTOR(S): Kawamonzon, Yoshihiro

PATENT ASSIGNEE(S): Toshiba Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10087989	A2	19980407	JP 1996-245297	1996 0917
JP 3405645	B2	20030512		

PRIORITY APPLN. INFO.: JP 1996-245297

1996
0917

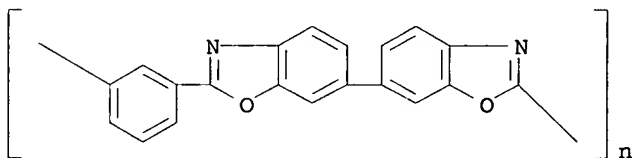
AB The title compns. are formed by compounding 1 mol polyazole precursor repeating unit -CONHX(R1)(R2)NHC(O)Y- and -ZCONHNHCO- [X = tetravalent organic group; Y = divalent organic group; R1, R2 = OH, SH, (un)substituted amino] with ≥ 0.1 mol curing accelerator(s) chosen from (A) (un)substituted N-containing heterocyclic compds. having pKa in water 0-8, (B) amino acid compds. and N-acylamino acid compds., and (C) aromatic hydrocarbon compds. having ≥ 2 substituents chosen from carboxy, aminocarbonyl, sulfo, aminosulfonyl, acyl, carboxyalkyl, sulfoalkyl, OH, SH, amino, and aminoalkyl. Isophthalic acid-3,3'-dihydroxy-4,4'-diaminobiphenyl copolymer varnish in AcNMe2 was cured with benzimidazole with 100% cyclization.

IT 25868-25-1P 112480-78-1P 146191-98-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyazole precursor compns. for **electronic parts**, with low dielec. constant and film-forming temperature and good moisture resistance and environmental stability)

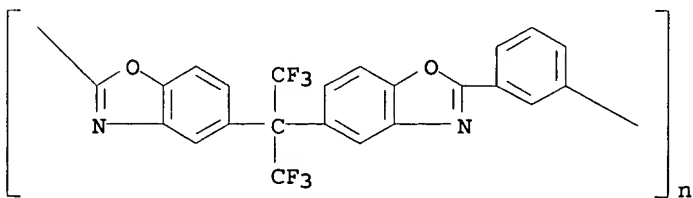
RN 25868-25-1 HCAPLUS

CN Poly([6,6'-bibenzoxazole]-2,2'-diyl-1,3-phenylene) (9CI) (CA INDEX NAME)



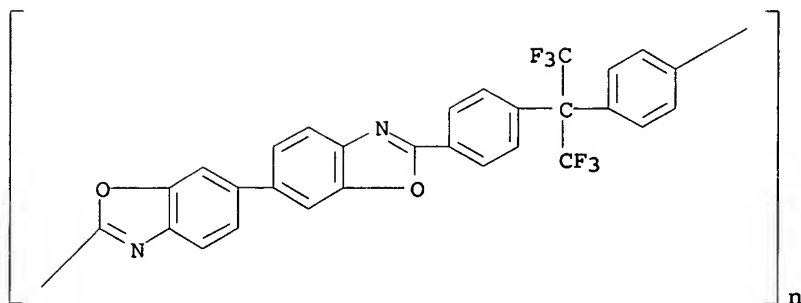
RN 112480-78-1 HCAPLUS

CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl-1,3-phenylene] (9CI) (CA INDEX NAME)



RN 146191-98-2 HCAPLUS

CN Poly([6,6'-bibenzoxazole]-2,2'-diyl-1,4-phenylene[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-1,4-phenylene] (9CI) (CA INDEX NAME)



- IC ICM C08L079-06
ICS C09D179-06; G02F001-1337
- CC 37-6 (Plastics Manufacture and Processing)
- ST polyazole precursor compn **electronic part**;
polyoxazole precursor compn **electronic part**;
curing accelerator polyazole precursor; benzimidazole curing
accelerator polyazole precursor
- IT Liquid crystals, polymeric
RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(orientation films; polyazole precursor compns. for
electronic parts, with low dielec. constant and
film-forming temperature and good moisture resistance and
environmental stability)
- IT Cyclization catalysts
Polyamides, preparation
Polyhydrazides
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(polyazole precursor compns. for **electronic
parts**, with low dielec. constant and film-forming temperature
and good moisture resistance and environmental stability)
- IT **Electric insulators**
RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(polyazole precursor compns. for **electronic
parts**, with low dielec. constant and film-forming temperature
and good moisture resistance and environmental stability)
- IT Polybenzimidazoles
RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(polyazole precursor compns. for **electronic
parts**, with low dielec. constant and film-forming temperature
and good moisture resistance and environmental stability)
- IT Polybenzothiazoles
RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(polyazole precursor compns. for **electronic
parts**, with low dielec. constant and film-forming temperature
and good moisture resistance and environmental stability)
- IT Polybenzoxazoles
RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(polyazole precursor compns. for **electronic
parts**, with low dielec. constant and film-forming temperature
and good moisture resistance and environmental stability)
- IT Polyoxadiazoles

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyazole precursor compns. for **electronic parts**, with low dielec. constant and film-forming temperature and good moisture resistance and environmental stability)

IT 51-17-2, Benzimidazole 66-71-7, 1,10-Phenanthroline 99-06-9,
3-Hydroxybenzoic acid, uses 119-65-3, Isoquinoline 156-38-7,
4-Hydroxyphenylacetic acid 495-69-2, Hippuric acid 543-24-8,
N-Acetylglycine 626-64-2, 4-Hydroxypyridine 1453-82-3,
Isonicotinamide

RL: CAT (Catalyst use); USES (Uses)

(polyazole precursor compns. for **electronic parts**, with low dielec. constant and film-forming temperature and good moisture resistance and environmental stability)

IT 25734-65-0P 25821-42-5P **25868-25-1P** 26023-46-1P
26101-19-9P 27026-22-8P 27027-96-9P 27044-31-1P
92093-07-7P **112480-78-1P** 112492-61-2P 113339-21-2P
146191-98-2P 152243-18-0P 205751-00-4P 205751-01-5P
205751-03-7P 205751-04-8P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyazole precursor compns. for **electronic parts**, with low dielec. constant and film-forming temperature and good moisture resistance and environmental stability)

L121 ANSWER 40 OF 40 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:137264 HCAPLUS

DOCUMENT NUMBER: 120:137264

TITLE: Compositions for interlayer insulation and/or
surface protection for multilayer
semiconductor devices and semiconductor devices
using the same

INVENTOR(S): Yusa, Masami; Takeda, Shinji; Myadera, Yasuo

PATENT ASSIGNEE(S): Hitachi Chemical Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

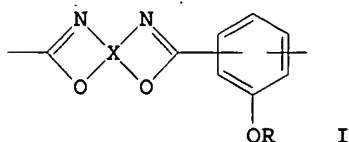
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05102125	A2	19930423	JP 1991-259521	1991 1008
JP 3006218	B2	20000207	JP 1991-259521	1991 1008

PRIORITY APPLN. INFO.: JP 1991-259521

GI



AB The title compns. forming heat- and moisture-resistant films with low dielec. constant contain F-containing polybenzoxazoles of the repeating unit I ($R = C_nF_{2n-1}$; $n = 6-12$; the benzene ring may be substituted; $X =$ aromatic ring-containing tetravalent organic group for forming a pair of 5-membered rings). A solution of 2.16 g 3,3'-dihydroxy-4,4'-diaminobiphenyl in 1.74 g pyridine and 12.3 g AcNMe₂ was treated with 6.49 g 3,5-(ClCO)₂C₆H₃OC(CF₃):C[CF(CF₃)₂]₂, stirred for 5 h, poured into a large amount of MeOH to give a polymer which was spin-coated from a 20% AcNMe₂ solution and heated at 130-140° for 30 min to give an etchable insulation film with dielec. constant (1 MHz) 2.4.

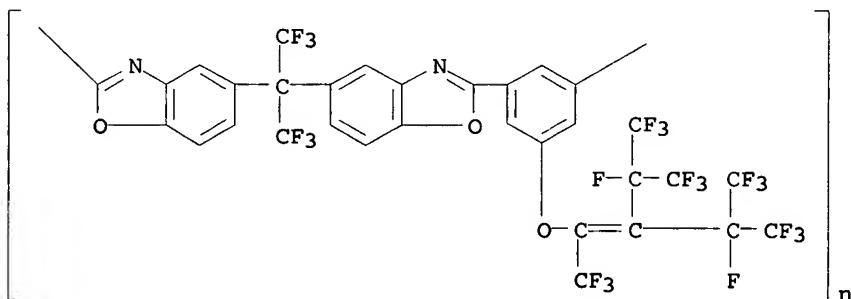
IT 141188-63-8P 141188-65-0P 141206-11-3P
141206-12-4P 141206-13-5P 141206-14-6P

RL: PREP (Preparation)

(manufacture of, heat- and water-resistant, for elec.
insulators and surface protection coatings, for
semiconductor devices)

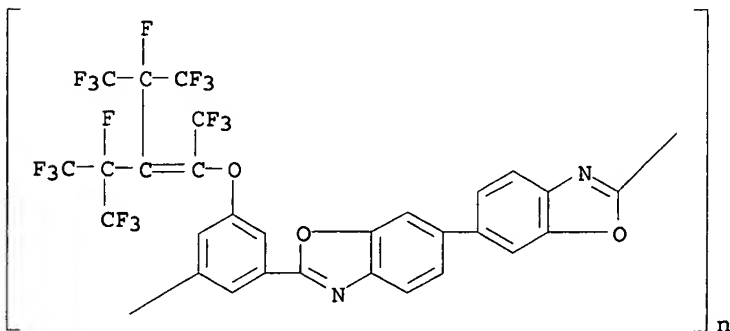
RN 141188-63-8 HCAPLUS

CN Poly[2,5-benzoxazolediyl[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-5,2-benzoxazolediyl[5-[[3,4,4,4-tetrafluoro-2-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-1,3-bis(trifluoromethyl)-1-butenyl]oxy]-1,3-phenylene]] (9CI) (CA INDEX NAME)



RN 141188-65-0 HCAPLUS

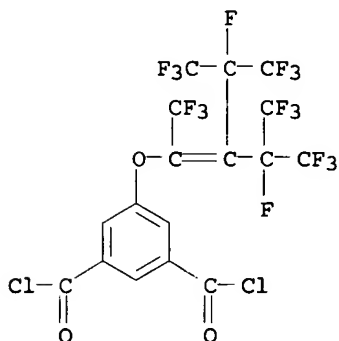
CN Poly[[6,6'-bibenzoxazole]-2,2'-diyl[5-[[3,4,4,4-tetrafluoro-2-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-1,3-bis(trifluoromethyl)-1-butenyl]oxy]-1,3-phenylene]] (9CI) (CA INDEX NAME)



RN 141206-11-3 HCAPLUS
 CN 1,3-Benzenedicarbonyl dichloride, 5-[[[3,4,4,4-tetrafluoro-2-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-1,3-bis(trifluoromethyl)-1-butenyl]oxy]-, polymer with 4,4'-diamino[1,1'-biphenyl]-3,3'-diol (9CI) (CA INDEX NAME)

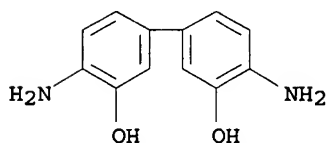
CM 1

CRN 130183-58-3
 CMF C17 H3 Cl2 F17 O3



CM 2

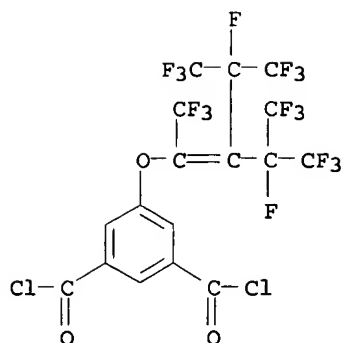
CRN 2373-98-0
 CMF C12 H12 N2 O2



RN 141206-12-4 HCAPLUS
 CN 1,3-Benzenedicarbonyl dichloride, 5-[[[3,4,4,4-tetrafluoro-2-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-1,3-bis(trifluoromethyl)-1-butenyl]oxy]-, polymer with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

CM 1

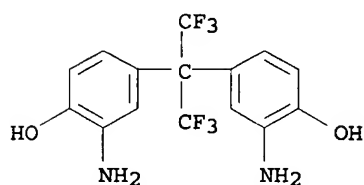
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CM 2

CRN 83558-87-6

CMF C15 H12 F6 N2 O2



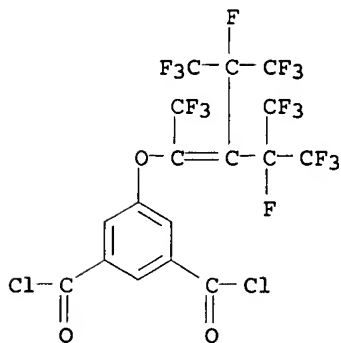
RN 141206-13-5 HCAPLUS

CN 1,3-Benzenedicarbonyl dichloride, 5-[[3,4,4,4-tetrafluoro-2-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-1,3-bis(trifluoromethyl)-1-butenyl]oxy]-, polymer with 1,3-benzenedicarbonyl dichloride and 4,4'-diamino[1,1'-biphenyl]-3,3'-diol (9CI) (CA INDEX NAME)

CM 1

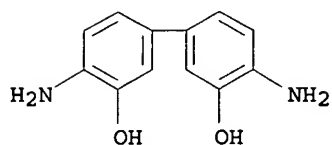
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CMF C17 H3 Cl2 F17 O3



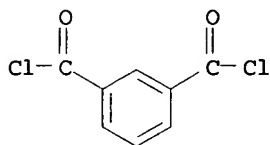
CM 2

CRN 2373-98-0
CMF C12 H12 N2 O2



CM 3

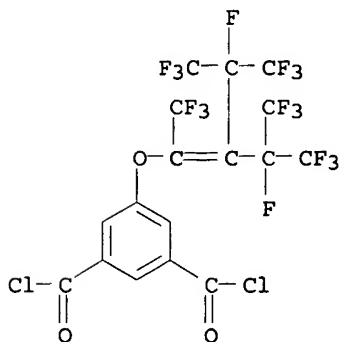
CRN 99-63-8
CMF C8 H4 Cl2 O2



RN 141206-14-6 HCAPLUS
CN 1,3-Benzenedicarbonyl dichloride, 5-[[[3,4,4,4-tetrafluoro-2-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-1,3-bis(trifluoromethyl)-1-butenyl]oxy]-, polymer with 1,3-benzenedicarbonyl dichloride and 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[2-aminophenol] (9CI) (CA INDEX NAME)

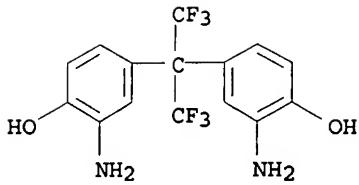
CM 1

CRN 130183-58-3
CMF C17 H3 Cl2 F17 O3



CM 2

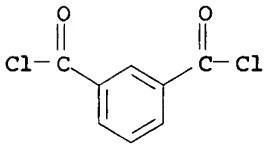
CRN 83558-87-6
CMF C15 H12 F6 N2 O2



CM 3

CRN 99-63-8

CMF C8 H4 Cl2 O2



IC ICM H01L021-312
 ICS C08G073-22; H01L021-90; H01L023-29; H01L023-31
 CC 42-10 (Coatings, Inks, and Related Products)
 Section cross-reference(s): 76
 ST polybenzoxazole **elec insulator** semiconductor
device; fluorine contg polybenzoxazole; polyamide fluorine
 contg
 IT Polybenzoxazoles
 RL: USES (Uses)
 (fluorine-containing, **elec. insulators** and
 surface protection coatings, heat- and moisture-resistant, with
 low dielec. constant, for semiconductor devices)
 IT 141188-63-8P 141188-64-9P 141188-65-0P
 141206-03-3P 141206-11-3P 141206-12-4P
 141206-13-5P 141206-14-6P 141206-15-7P
 141206-17-9P
 RL: PREP (Preparation)
 (manufacture of, heat- and water-resistant, for **elec.**
insulators and surface protection coatings, for
 semiconductor devices)

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